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SOCIAL INSURANCE
AN ECONOMIC ANALYSIS

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TO
MY FATHER AND MOTHER

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PREFATORY NOTE

The present study was suggested by the frequent references in the literature of social insurance to the burden imposed by legislation for workmen's compensation and old age pensions. These references usually mention the complexity of the economic forces concerned and the intricacy of analysis. If the writer is strongly in favor of the policy of compulsory insurance the subject is often dismissed with a few optimistic generalities; if opposed, it is dismissed with as little real analysis, but with a prediction of ominous possibilities to business or to the wages of workmen. In the present book, submitted in 1915 to the faculty of the Graduate School of Cornell University in partial fulfillment of the requirements for the degree of Doctor of Philosophy, an attempt is made to study the question of the burden of insurance critically. German experience respecting the cost and weight of insurance contributions has been reviewed. The possible effect of compulsory insurance on thrift has been analyzed and the effect of accident insurance upon the accident rate illustrated by German statistics. The analysis completed, it becomes possible to weigh the burden of cost and social disadvantage with the positive advantages to be derived from the compulsory insurance of the working classes, and to reach a reasoned conclusion with respect to the wisdom of a policy of social insurance. No attempt has been made to discuss or to criticize the various measures and methods of insurance in special fields.

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ROBERT MORSE WOODBURY.

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SOCIAL INSURANCE

CHAPTER I

THE DEVELOPMENT OF SOCIAL INSURANCE

The movement for social insurance is an attempt to solve certain new problems arising from new industrial conditions. Modern productive methods, gathering large bodies of workmen together in factories, and demanding large amounts of capital, have magnified the difference in position of the employer and the employee and have furthered the development of a working class. The special problems of that class have been brought into prominence. Among them the safeguarding of the economic position of workmen by elimination of fluctuations of income is of great importance. The advantages of adequate compensation for industrial accidents and of insurance of workmen against sickness and old age are appreciated by an enlightened public opinion. The interruptions of earnings due to sickness and accident may be eliminated or reduced, the hardships and distress of a workman and his dependents lessened, the days of old age made secure and free from the stigma of pauperism. Legislation to secure these ends has been widely enacted.

But, as with most measures of economic or social significance, questions of cost arise: benefits must be considered in relation to cost. Are the advantages of social insurance sufficient to warrant the expense? Who should pay for it? What of the economic burden laid upon industry? Questions of the shifting and incidence of the burden of cost, the effect of social insurance upon industry, enterprise, and wages must all be considered, and possible disadvantages

weighed. Will insurance exert an unfavorable effect on thrift in the working classes? Does compensation for injuries tend to increase the accident rate? These questions may not safely be disregarded. The present chapter will attempt to trace the development and describe the present extent of social insurance legislation. In the following chapters the argument for adequate protection, even though it involve compulsion, will be presented. Succeeding chapters will be devoted to an analysis of the economic and social effects of social insurance, a careful study and weighing of which is necessary before a satisfactory conclusion on the desirability of social insurance legislation can be reached.

Social insurance, strictly speaking, is not insurance at all. Insurance involves the distribution of the burden of accident or other loss among persons exposed to risk by means of premiums so measured as to equal the cost. Social insurance is a term applied to government action with reference to the problem of eliminating uncertainty from the income and life-position of workingmen. An accident may cripple a laborer for life and prevent him from earning a livelihood; sickness may cause a temporary or permanent loss of earnings; old age may find him unprepared with savings and unable to support himself. All of these contingencies may be met by insurance voluntarily assumed by persons subject to risk. Legislation designed to lessen uncertainties or fluctuations of income arising from these causes may be termed social insurance legislation. A legislative measure may require workmen to insure themselves against accident or may take the form of imposing upon the employer liability for damages arising from negligence, or, as in workmen's compensation and in accident insurance, the employer may be required to pay specified rates of compensation to injured workmen. Measures requiring or assisting workmen to insure against sickness, invalidity,

or old age are designed to reduce the fluctuations of income of workmen. It is usual in such legislation to lay a part of the cost on the employer. State old-age-pension schemes represent a bold assumption by the state of responsibility for the aged workman whose income is insufficient. All such legislation falls within the field of social insurance.¹

The test of the adequacy of social insurance legislation is the degree of completeness with which the legislation accomplishes its object in its special field—the elimination of insurable uncertainties from the income of workmen. The development of social insurance shows a progressive tendency toward greater adequacy. The (limited) liability of employers for damages resulting from negligence has been superseded by workmen's compensation and accident insurance laws applicable to practically all industrial accidents. Legislation encouraging and assisting voluntary insurance has given place to compulsory insurance legislation. The chief obstacles in the way of more adequate protection have been the difficulties of administration and enforcement. But methods have gradually been perfected by which premiums can be regularly collected and the insurance of workmen efficiently controlled.

An important feature of the development of social insurance legislation, though not directly connected with the trend to compulsion and to greater adequacy, is the evolution of the division of the burden of cost. A given division of cost reflects as it were the prevailing concept of equity in apportionment; but where determined by legislative enactment, it may also be regarded as an indication of the political strength of the parties to the division.

¹ Unemployment insurance, maternity insurance, etc., fall within the field of social insurance, but they are not here specifically treated. Unemployment insurance has been only recently developed, and the special difficulties connected with compulsory unemployment insurance are so great and to such a large extent still awaiting solution that it has not seemed worth while to give it a separate treatment.

A brief outline of the development of social insurance legislation in Germany will show more clearly the steps of progress. Germany is selected rather than England, because it was there that the advantages of protecting workmen by social insurance legislation were earlier appreciated. In Germany the spirit of *laissez-faire* and of individualism was not present to act as a deterrent to such legislation. In Germany, too, were developed those methods of administration which made a compulsory system of insurance feasible.

The development of the liability of employers for accidents derives its character from the fact that the law found in "negligence" a basis for assessing damages. In Germany the early "common law" was in this respect similar to that of England. Damages could be recovered by an injured workman from the person at fault, if negligence could be proved. The employer was responsible for carelessness in the installation of plant or factory, for defective equipment, for neglect of necessary repairs, for the improper selection and supervision of workmen. If the person at fault was a representative of the employer, the latter was legally liable for damages only if it could be shown that he was negligent in the selection of his representative.¹

From the point of view of adequate compensation proof of negligence was a poor basis for assessment of damages. The first modification was contained in the Prussian law of November 3, 1838, applying to railroads, then newly introduced. The employer could escape liability only by bringing positive proof that the accident was caused by the fault or negligence of the person injured or was due to an unavoidable external chance, or act of God. No distinction was made between employees and passengers. The burden of proof was placed not upon the employee but upon the railroad. After the formation of the empire, this pro-

¹Elster, *Hauptpflicht*, in *Handwörterbuch der Staatswissenschaften*, 3d ed., V. 220.

vision was extended by a law of June 7, 1871, to the railroads of the empire. The same law contained provisions applying to mines, quarries, and factories. The employer was made liable for the negligence or fault of a deputy or superintendent, and the earlier defence that he was not at fault in the choice of his representative was swept away. In these industries the burden of proof remained with the injured employee.¹

The next step was the enactment of the accident insurance legislation of July 6, 1884. Employers in specified branches of industry were required to form mutual associations and pay compensation on a scale determined by the law for injuries received in the course of employment. In later laws the scope of this insurance was extended till practically all industries, including agriculture, were covered. In these laws negligence of employer is abandoned as a basis of award; adequacy of protection is the guiding principle. But the new apportionment of cost followed substantially the logic of the previous division. If negligence was proved, it had seemed equitable that the employer should pay: negligence implied liability. When the concept of negligence was illogically extended, the cost placed upon the employer increased. With the abandonment of the basis of negligence, the employer was still held responsible for most of the cost, and reasonably so from the standpoint not of negligence but of adequate compensation. The only change was the assignment of part of the cost of caring for accidents during the first thirteen weeks to the sickness insurance system; this meant that approximately 8 per cent of the total cost of accidents was laid upon the employee.²

In the development of sickness and invalidity insurance and provision for old age, the trend from voluntary to

¹ *Handwörterbuch*, V. 221.

² Lass and Zahn, *Einrichtung und Wirkung der deutschen Arbeiter-versicherung*, 185 (1900).

compulsory insurance can be clearly traced. At a very early time some provision for accident and sickness and old age was voluntarily made through private and mutual organizations. Many of the guilds and journeymen's associations provided for the care of sick members by regular payments to a monastic hospital. The Prussian law of 1794 codified most of the provisions then existing in guilds and among workmen. According to this codification journeymen were permitted to choose one of their number to superintend a fund to provide for common needs, especially for the care of the sick or otherwise unfortunate. The fund was liable to be drawn upon to assist even newly arrived journeymen, who had not yet secured employment in the town.¹ Masters were required to provide for a sick journeyman only in case the assistance given by the journeymen's fund was insufficient. The master was not required to care for a sick apprentice unless it was specified in the contract. Guilds of masters were primarily for mutual assistance among themselves. Factory owners had in general the same rights and duties as guild members, and their employees had much the same position as journeymen. The cost of caring for sick and injured workmen was placed upon their own mutual organizations.²

In the mining industry associations of workmen were much more highly developed. The need of organization for mutual assistance was greater because of the greater frequency of accident and the greater risks of the employment. The principle of compulsion was recognized in the early laws relating to the *Knappschaftskassen*, or miners' association funds. Compulsory contributions were required of the journeymen miners to meet the cost of sickness and accident. The claims of injured workmen against the associa-

¹ Manes (Honigmann), *Arbeiterversicherung (Deutschland)* in *Handwörterbuch*, 3d ed., I. 798-9.

² Honigmann, *Arbeiterversicherung (Deutschland)*, in *Handwörterbuch*, 1st ed., I. 519 et seq.

tions were given legal sanction in the Prussian codification. Part of the cost of the care of sick and injured miners was placed by law upon the mine owner, whose liability extended to from four to eight weeks of illness. The journeymen's funds were required to care for cases of accident and sickness after the employers' liability had been exhausted. Employers regularly gave contributions or subsidies to the journeymen's funds.¹

Seamen were entitled to benefits prescribed by special laws. A seaman who was injured or who fell sick during the voyage had to be cared for at the expense of the captain or owner till the home port was reached, and in case of death small payments ranging from one to four months' wages were to be paid to the widow or heirs.²

A servant in city and country was entitled to be cared for in sickness by his employer, if he became sick or disabled during or because of his work. In other cases, the employer was required to give only temporary care, and could deduct the costs of such care from wages.³ Laborers in the country were, prior to 1807, in a condition of serfdom, and the landowner was required to care for them in case of need and to provide for orphan children.

The protection thus afforded some classes of workmen was considerably weakened by changes in the direction of greater freedom for the laborer and for the employer. In the early part of the nineteenth century, freedom of movement was given to country laborers. The abolition of serfdom meant that landowners were no longer required to care for sick or injured farm laborers. The control of the guild over trade was taken away and industrial freedom realized. The right of journeymen and workers to form unions and associations was recognized. The guild associations were no longer responsible for the care during sick-

¹ *Handwörterbuch*, 1st ed., I. 520.

² *Ib.* 520-1.

³ *Ib.* 521.

ness of the journeyman in his apprentice years of *Wanderschaft*. Some of the funds were dissolved. Most of the organizations which had been compulsory continued to exist under the changed conditions.

An important step in the direction of compulsion was taken in 1845. The increased liberty of movement of the working population had brought with it an increasing cost of poor relief in the cities. A law was passed in 1845 permitting the communes by local ordinance to require all journeymen and work-assistants to join and contribute to some fund giving benefits in case of sickness.

A law of 1849 extended the powers of the communes in this scheme of optional local compulsion. The small independent producers could be required to contribute to the support of needy journeymen of the same or allied trades, and compulsion to contribute could be extended to cover factory workers. Contributions of employers of an amount equal to one half of the contributions of workers could be required. The employers were authorized to advance the payments and to deduct the contributions of workmen from their wages at the next pay day.¹ These provisions established precedents for the division of cost and of collecting premiums, which were followed in later compulsory legislation.

The most complete application of the principle of compulsion prior to the general legislation, is to be found in the Prussian law of 1854 (later adopted in the general mining code of 1865) regulating organizations in the mining industry. The formation of and membership in miners' associations was made compulsory for all workmen in mines, quarries, and salt works. The cost was met by compulsory contributions from members and from employers; the latter had to pay an amount equal at least to one half of that paid by the workmen. On the executive bodies

¹ *Handwerkerbuch*, 1st ed. I., 522.

employers and employees were equally represented. Benefits were carefully regulated. Members with full privileges were entitled to medical care and sick pension, or a life-long pension in case of invalidity. If death resulted from accident, the widow was granted a pension together with subsidies for the education of children under fourteen years of age. Members with partial privileges received medical care and a sick pension in case of sickness, and an invalidity pension or a funeral benefit in case of accident. The payment of contributions for a certain number of years was a prerequisite to receiving invalidity or old-age pensions, and as a rule the attainment of the larger benefits of full membership was limited to the more permanent portion of the labor force.¹

Besides the compulsory organizations in the mining industry and the funds in which membership might be locally required, organizations modeled after the English friendly societies sprang up. Membership in these funds was voluntary. Several were organized as early as 1848, among them the Book Printers' Association, which gave benefits for sickness and invalidity.² Labor unions and associations of the Social-Democrats adopted benefit systems. A law of 1869 (June 21) exempted workingmen who were enrolled with one of the mutual organizations from the necessity of joining a local sickness-insurance fund. In 1876, societies were distinguished as "registered" and "free"; for the former maximum and minimum limits for benefits were prescribed and their activities were restricted to offering sickness and funeral insurance. The actuarial relation of benefits to contributions was supervised. Only members of registered funds were to be freed from the requirement to insure in a sickness fund.³ The socialist agitation in

¹ *Handwörterbuch*, 3d ed., I. 800 et seq.

² *Ib.* 801. Also 1st ed., I. 525-527.

³ *Ib.* 1st ed., I. 526.

1878 brought on severe laws against the free mutual-aid societies and many were suppressed.¹

Insurance under this system of private initiative, optional local compulsion, and direct compulsion in a few industries, was not by any means general. Comparatively few of the communes made use of their option. By the close of 1853 only 226 communes in Prussia had required local insurance, and only 58 of these levied a contribution on the employers.² In 1868 there existed in Prussia a total of 4700 funds making provision for sickness, with 690,000 members. By 1874 there were nearly 800,000 members enrolled. Besides these, the compulsory miners' associations insured 235,000 members and railroad funds had 66,000 more. Altogether there were nearly 1,100,000 workers insured against sickness in these various organizations. Provision for old age was much less general. The miners' funds included usually benefits for superannuation and infirmity, but gave them only to about one-half of the total membership. Aside from these, in 1876 166 funds with a membership of 36,000 provided specifically for old age and invalidity. Death benefits were given by 5144 death-benefit associations with 1,600,000 members. Mixed funds numbered 1095 with 172,000 enrolled.³

W. H. Dawson quotes the reports of several cities to an inquiry made by the German Poor Law Association⁴ on the extent of insurance prior to the enactment of the general compulsory legislation. Several cities, Bielefeld, Colmar, Erfurt, Halle, Kaiserslautern, and others, reported that "a large part" or "the major part" of the workers

¹ *Handwörterbuch*, 3d ed., I. 802.

² *Ib.* 1st ed., I. 522.

³ *Ib.* 1st ed., I. 528. Cf. also the *Bericht der VIII. Kommission vom 26. Juni 1879, in Sten. Ber. d. Reichstags. 4. Legisl. Periode, II. Session, 1879. (Drucksachen d. Reichstags, No. 314), VI. 1170.* The margin of error of these statistics is large, and the figures given are probably under the true numbers.

⁴ Deutscher Verein für Armenpflege und Wohltätigkeit.

were insured against sickness.¹ Only three small towns mentioned any provision for old age.² In the mining industry alone was insurance general and compulsory. Even here the fluctuating character of the labor force made it difficult to enforce compulsion, and only those regularly employed were insured against old age.³

The situation prior to the compulsory legislation may be summed up as follows. Only a part of the working class was insured.⁴ The principle of compulsion was recognized not only in the law regulating the mining associations but also in the local ordinance law. Workmen were required to insure; compulsory contributions were levied on the employers. Workmen in the mining industry under compulsory insurance were most adequately protected. Feasible methods of enforcing compulsion had been discovered and voluntary insurance had proved inadequate.

The development of social insurance in Germany has been an extension of the principle of compulsion. Insurance against sickness was made compulsory by a law passed June 15, 1883, which went into effect December 1,

¹ Dawson, *Social Insurance in Germany, 1883-1911*, 7-8.

² Zittau (23,000 population 1890), Schneeberg, and Hohenmölsen. Richard Freund, *Armenpflege und Arbeiterversicherung*, in *Schriften des Vereins für Armenpflege und Wohltätigkeit*, Heft 21.

³ Keiner, *Die Entwicklung der deutschen Invaliden-Versicherung*, 5 et seq.

⁴ "Schon um die Mitte des Jahrhunderts erzielten die Bemühungen des preussischen Handelsministers, die Gemeinden zur ortsstatuarischen Einführung des Kassenzwangs zu bewegen, nur bescheidene Erfolge, und in noch geringerem Masse machte man später von den Befugnissen Gebrauch, welche die Gewerbeordnung und das G. v. 7./IV. 1878 nach dieser Richtung eingeräumt hatten. Aber auch die freien Hilfskassen, die allerdings unmittelbar nach dem Erlass des Hilfskassengesetzes einen gewissen Aufschwung nahmen, bald jedoch, soweit Schöpfungen der sozialdemokratischen Partei, auf Grund des Sozialisten-G. v. 21./X. 1878 grossenteils dem Schicksal der Auflösung verfielen, umfassten immerhin nur einen geringen Prozentsatz, vorzugsweise die materiell, sozial und geistig vorgeschrittene Elite der arbeitenden Bevölkerung." *Handwörterbuch*, 3d ed., I. 802.

1884. It was followed shortly after by the Accident Insurance Law of July 6, 1884, in effect October 1, 1885, applying to a few of the more hazardous industries. Subsequent laws extended the scope of the insurance till practically all workmen in all occupations were under the provisions of the acts. In 1889 was passed the Old-age and Invalidity Insurance Law, which went into effect in 1891. The revision of 1911 consolidated the three branches of insurance into a unified system, and added to the invalidity insurance provision for surviving invalid widows and dependent children. A new law of 1911 prescribed compulsory insurance of salaried employees against old age and invalidity.¹

The division of burden between employer and employees followed the precedents which had already been established. Accident costs were laid almost entirely on the employer. Sickness insurance was collected one third from the employer and two-thirds from the workmen, following the division of the laws of 1845, 1849 and 1854. Employers and employees were required to contribute equal shares to the cost of invalidity and old age insurance; a subsidy of a fixed amount being added to each pension from the State treasury.

Social insurance legislation in some form has been enacted in almost all of the important industrial nations. Conditions in the other industrial countries have developed as they have in Germany. Social insurance has spread rapidly with the recognition of the needs of the laboring class.

Accident insurance laws have been most widely enacted. All of the European countries except Turkey have adopted some scheme of workmen's compensation, and Australia, Japan and other states have followed. Table I shows the

¹ For a good general account of the German insurance system, cf. Dawson, *Social Insurance*. Also *Arbeiterversicherung (Deutschland)*, *Invalidenversicherung*, *Unfallversicherung*, and *Landwirtschaftliche Versicherung*, in *Handwörterbuch*, 3d ed. Cf. Manes, *Sozialversicherung*, etc.

date of adoption of accident insurance laws in the different countries.

TABLE I

DATES OF ENACTMENT OF FOREIGN COMPENSATION LAWS ¹

Country	Date of Enactment of Original Law	Country	Date of Enactment of Original Law
Germany.....	1884	Queensland.....	1905
Austria.....	1887	Venezuela (mining only)	1906
Norway.....	1894	Mexico.....	1906
Finland.....	1895	Hungary.....	1907
Great Britain.....	1897	Transvaal.....	1907
Denmark.....	1898	Newfoundland.....	1908
Italy.....	1898	Alberta.....	1908
France.....	1898	Bulgaria.....	1908
Spain.....	1900	Quebec.....	1909
New Zealand.....	1900	Manitoba.....	1910
South Australia.....	1900	Nova Scotia.....	1910
Netherlands.....	1901	Liechtenstein.....	1910
Greece (mining, quarrying, metallurgy, etc. only).....	1901	Servia.....	1910
Sweden.....	1901	New South Wales.....	1910
Western Australia.....	1902	Tasmania.....	1911
Luxemburg.....	1902	Peru.....	1911
British Columbia.....	1902	Montenegro.....	1911
Russia.....	1903	Japan.....	1911
Belgium.....	1903	Switzerland.....	1912
Cape of Good Hope.....	1905	Roumania.....	1912
		Portugal.....	1913

¹ *United States Bureau of Labor Statistics, Bulletin, Whole Number 126 (Workmen's Insurance Compensation Series No. 5), Workmen's Compensation Laws of the United States and Foreign Countries, 132.*

Compulsory sickness insurance laws covering either all of the working class or limited in application to certain occupations have been passed in Germany, 1884; Austria,

1888; Hungary, 1891; Norway, 1909; Servia, 1910; Great Britain, 1911; and Russia, 1912. France, Belgium, Denmark, Sweden, and Switzerland have voluntary subsidized sickness insurance.

Compulsory insurance against invalidity and old age went into effect in Germany in 1891. The Austrian law of 1906 required insurance of salaried employees. France enacted in 1910 a law compelling workmen to insure against old age. A compulsory law was passed in Sweden in 1913 requiring contributions from practically the entire adult population. Old-age or invalidity insurance is required for workmen in a few industries in Hungary, Roumania, and Italy. Old-age pensions have been granted by the state to deserving aged poor in Denmark since 1891. New Zealand enacted an old-age-pension law in 1898, New South Wales in 1900, Victoria in 1901, the Commonwealth of Australia in 1908. A French law of 1906 gave pensions to the aged poor, and Great Britain, under the leadership of Lloyd-George, enacted in 1908 an old-age-pension law. No contribution of any kind is required from the pensioned class. Voluntary subsidized old-age-insurance systems are organized in Italy, Belgium, Servia, Spain, and New Zealand.

The mere enumeration of the countries which have adopted measures of social insurance is impressive. It does not indicate, however, whether the legislation is complete or partial in its application. It does not show whether all or only a part of the working class is protected by the operation of these laws. The Imperial Insurance Office of Germany has compiled estimates for the countries of Europe of the numbers of the wage-workers and the numbers of those insured against the various contingencies.¹ The esti-

¹ *Die Sozialversicherung in Europa nach dem gegenwärtigen Stande der Gesetzgebung in den verschiedenen Staaten*, in *Sonderbeilage zum Reichs Arbeitsblatte*, No. 12 (Dec. 1912. Ergänztter Neudruck, Jan. 1913).

mates distinguish those making voluntary provision as well as those covered by compulsory legislation. The figures are given in Table II.

Germany, with its compulsory insurance for accident, sickness, invalidity, and old age, shows to best advantage, with nearly the entire working population insured. Great Britain is a close second, the main difference being that the proportion of the population insured against accidents is smaller there than it is in Germany. The estimates show that a much larger and more general provision is made for industrial accidents than for sickness, and that provision for the latter is more general than for either invalidity or old age. Compulsory insurance means that a much greater proportion of the total population or of the working class is insured than under voluntary or even subsidized voluntary effort. It is to be remarked, however, that the figures are not quite comparable. Voluntary, or friendly, mutual aid societies, etc., are apt to include many above the working class level, who would not be required to insure under a compulsory system. The figures for compulsory insurance therefore may be applied to the working-class population without the reservations that have to be made in case of voluntary sickness provision. On the other hand the figures for voluntary provision are probably more difficult to obtain and omissions would be more likely to occur than in compulsory insurance.

France, Great Britain, Denmark, and, outside of Europe, Australia and New Zealand, give old-age pensions or assistance to deserving aged persons without previous contribution of any kind. The number of old-age pensions cannot be compared to the entire working population to give intelligible results; the extent of such aid can best be measured by the proportion of the aged population in receipt of pensions. In England and Wales in 1911, 57 per cent of the population over 70 years of age received

TABLE II
ESTIMATES OF NUMBERS OF INSURED WAGE-EARNERS IN VARIOUS COUNTRIES

Country	Date	Population	Wage-earners	Insured Against Accident	Sickness Insurance		Old Age and Invalidity Insurance		Pensions Secured by Voluntary Contributions	State Pensions
					Compulsory	Voluntary	Compulsory	Voluntary		
Austria	1909	27,800,000	10,000,000	3,710,000	3,340,000	420,000		1,100,000 ¹⁴	40,000 ¹⁴	
Belgium	1910	7,400,000	2,100,000			(1910) 666,924				
Denmark	1911	2,800,000	500,000			43,261		10,132		
Finland	1909	3,000,000	500,000	100,700 ¹		4,400,000 ⁸		1,900,000 ¹⁵	325,500 ¹⁵	590,061 ¹⁵
France	1911	40,000,000	10,000,000	4,250,000 ²	205,000 ⁸		11,000,000			
Germany	1911	65,000,000	16,700,000	24,600,000	15,000,000 ⁹		15,900,000 ¹⁶			
Great Britain	1911	45,200,000	14,000,000	13,000,000 ³	14,700,000 ¹⁰		14,700,000 ¹⁷			908,000 ¹⁷
Greece	1910	2,700,000								
Hungary	1909	21,000,000	3,200,000	1,100,000	900,000					
Italy	1911	34,700,000	10,500,000	1,800,000		1,000,000				
Luxemburg	1910	260,000	55,000	36,701	37,736					
Netherlands	1909	5,900,000	1,500,000	500,000 ⁴		500,000				
Norway	1910	2,400,000	400,000	381,800	400,000					
Roumania	1911	7,070,000	250,000	180,000 ⁵	140,657 ¹¹			100,000 ¹⁸		
Russia	1910	145,600,000	6,500,000	2,400,000	2,590,000 ¹²					
Servia	1910	2,900,000	56,000							
Spain	1910	20,000,000	7,000,000							
Sweden	1910	5,500,000	1,000,000	250,000 ⁶		(1909) 621,411	2,800,000 ¹⁹			
Switzerland	1910	3,800,000	800,000	700,000 ⁷		800,000 ¹³				

¹ Finland. 98,200 "full-time workers." 2500 seamen. (1909)

² France. 250,000 insured compulsorily in State Institution for Seamen. 4,000,000,000 marks wages insured, "voluntarily" (i.e., by employers) roughly 4,000,000 workers. Cf. estimate, *Workmen's Compensation Laws of the United States and Foreign Countries*, in *Bulletin of U. S. Bureau of Labor Statistics*, No. 126, 133.

³ Great Britain. "About 13,000,000 persons to be insured" (workmen's compensation with voluntary insurance).

⁴ Netherlands. 89,619 establishments insured. 500,000 workers estimated: Germany with 6,200,000 establishments had 24,600,000 insured; Austria with 546,000 establishments had 3,710,000 insured; Luxemburg with 2503 industrial establishments had 36,701 insured.

⁵ About 180,000 persons subject to insurance. Compulsory law passed recently.

⁶ Sweden. Of 400,000 workers covered by the law (voluntary) about 250,000 are insured.

⁷ Switzerland. About 700,000 persons subject to insurance. Law passed recently, 1911.

⁸ France. 205,000 miners insured under compulsory law. 4,400,000 members of mutual aid societies, exclusive of 500,000 honorary members.

⁹ Germany. After the Second Book of the Social Insurance Code of 1911 goes into effect (Jan. 1, 1914), about 20,000,000 insured.

¹⁰ Great Britain. More accurate statistics wanting. About 14,700,000.

¹¹ Roumania. About 140,657 persons to be insured under new law of 1912.

¹² Russia. About 2,500,000 persons to be insured under the new law to go into effect in 1914.

¹³ Switzerland. About 800,000 persons insurable. Compulsory insurance can be required locally by cantons and communes.

¹⁴ Belgium. 5600 mutual aid societies with 1,100,000 members providing against old age. 40,000 pensions current 1909. Old-age-pension institution. 68 associations with 145,000 members give invalidity benefits.

¹⁵ France. 1,900,000 accounts of depositors in the State Old-Age Pension Institution, with 325,500 pensions current, 1910. 599,061 persons, aged, and invalid, infirm and incurable aided, Dec. 31, 1910, by state pensions. Besides 111,229 aided under law of April 5, 1910, aged 65-69 years (*assistance-retraites*). *Annuaire statistique* (France), XXXII. 59 (1912).

¹⁶ Germany. Besides 2,000,000 to be insured under insurance law for salaried employees, 1911.

pensions up to 5 shillings a week. In Ireland 68.4 per cent of the population over 70 were pensioned.¹ Australia pensioned 34 per cent of the population over 65,² New Zealand 33.6 per cent.³ France assisted nearly 21 per cent of the aged over 70 with a small pension.⁴ A very large

¹ Of the population over 70 in 1911 in England and Wales (1,071,702), 613,873 received pensions. This is exclusive of a large almshouse population. Population over 70 in Ireland in 1911 was 295,027, of whom 201,783, or 68.4 per cent, were pensioned. Cf. *Parliamentary Papers*, Cd. 6462, *Third Report of the Commissioners of His Majesty's Customs and Excise*, for the Year ended 31st March, 1912, 81; *Census of England and Wales, 1911*, VII. 1-2, figures from table; *Census of Ireland, 1911, General Report with Tables and Appendix*, xxv. The grant of pensions in Ireland caused a singular change in the reported age distribution of the population. People had been understating their ages. More people were found to be over 70 in the first year of the passage of the act than had been estimated to be of that age in the island from the returns of the previous censuses. Cf. Cd. 6663, xxv (1912-13); also Mass. *Report of the Commission on Old Age Pensions, Annuities, and Insurance*, 98-99 (1910).

² Australia. On June 30, 1910, there were 65,492 pensioners over 65; Apr. 3, 1911, 190,583 population over 65 (except full-blooded aborigines). Cf. *Parliamentary Papers*, Cd. 6400, 199. Also, *Official Year Book of the Commonwealth of Australia*, VII. 119 (1914).

³ *The New Zealand Official Year-Book*, 896, 892, and 126 (1912). In 1911 16,020 persons were pensioned out of a population over 65 of 47,700, or 33.6 per cent.

⁴ Of an estimated population over 70 of 1,925,000 in 1911, 389,811, nearly 21 per cent, were assisted. *Statistique générale de la France, Annuaire statistique*, XXXII. 59, 7 (1912); XXVI. 7 (1906). The population over 70 for 1911 is estimated on the basis of the increase of the population over 70 from 1901 to 1906.

¹⁷ Great Britain. More accurate information wanting. Compulsory insurance against invalidity is part of sickness insurance. 908,000 old-age pensioners, 1910.

¹⁸ Roumania. About 100,000 workmen to be insured under compulsory law of 1912.

¹⁹ Sweden. Estimate of Swedish commission. Cf. *Reichsarbeitsblatt*, XI. 858 (1913).

proportion, therefore, of the aged workers are cared for under these state-pension schemes.¹²

In the United States social insurance has gained little actual realization. More has been accomplished in accident compensation than along other lines. In thirty-one states workmen's compensation laws are in force providing for compensation by compulsory insurance of employees or by elective insurance with the alternative of abrogation of the main defenses of the employer under the common law rules. These laws are subject to review by the courts, which may declare them contrary to the constitution of

¹ Cf. the discussion and the rough estimates of Rubinow, *Social Insurance*, 378-379.

² Comparison of these data with the proportion of aged persons pensioned in Germany under compulsory insurance is possible only by estimate. The law in Germany is directed to relieving the distress of invalidity rather than to that of old age. No statistics of invalid pensioners showing the age distribution are published. Consequently there is no way of comparing pensioners over 70 with the population over 70, except by estimating the proportion of invalidity pensioners over 70. In 1891 132,926 old-age pensions were granted, covering 9.6 per cent of the population over 70. Practically no invalidity pensions were granted the first year. The number of old-age pensions at the beginning of the year rose in 1897 to 203,955, nearly double the number granted the first year, and declined to 93,369 in 1912. The decline is due to the fact that many of those over 70 now apply for and receive invalidity pensions, as these are now larger on the average than the old-age pensions. On Dec. 31, 1911, there were 940,875 invalidity pensions current. Of 114,755 new invalidity pensions granted in 1910, 13,866 were given to persons 70 and over, or 12 per cent. In 1910, in Berlin, 6609 out of 30,721 invalidity pensions current were received by persons 70 and over. Assuming that 20 per cent of all invalidity pensioners were over 70, there were approximately 16 per cent of the population over 70 of Germany pensioned. If 40 per cent of the invalidity pensioners were 70 and above, there would be about 26 per cent of the aged persons pensioned. Apparently a much smaller proportion of the aged receive a pension in Germany than in Great Britain or in Australia or New Zealand. Cf. Dawson, *Social Insurance*, 158-9; *Amtliche Nachrichten des Reichs-Versicherungsamts*, XXVIII. No. 2, 1, 281 (Feb. 1912); *Statistisches Jahrbuch der Stadt Berlin*, XXXII. 532.

the state or of the national government. The constitutions of the states have been amended in some cases so as partly to obviate these difficulties. But a decision of a state court declaring a state law void on grounds of incompatibility with the national constitution is not subject to review by the federal courts.

Practically no attempt has been made to secure social insurance against sickness or invalidity.¹ Beginnings have been made in insurance against old age in the case of teachers and of certain government employees.² Pensions of the national government take care of aged veterans of the Civil War, but make no specific provision for the aged working-man.³

The remarkable spread of the idea of social insurance throughout all the principal industrial countries of Europe and the beginnings of agitation in the United States point to the eventual adoption of the idea in some form. If the results of the system are good, if it is a step forward in social justice, if its advantages are greater than its disadvantages, its introduction into the United States is only a question of time.

¹ Cf. Rubinow, *Social Insurance*, 281-298, for a discussion of this question.

² *Ib.* 391-412. Cf. Squier, *Old Age Dependency in the United States*, 53-235.

³ Estimating that 60 per cent of the recipients of pensions of the United States government are 65 and over, there were 500,000 pensioners in a population of 3,949,000 in 1910, or 13 per cent of the population over 65 were pensioned. That this estimate is fairly reasonable is shown by the fact that 15.4 per cent of the population over 65 in Massachusetts are pensioners. See data of the Mass. *Report of the Commission on Old Age Pensions*, 22 (1910). Rubinow thinks that these are not the part of the aged population most in need of pensions. *Op. cit.* 408. Cf. *Report of the Commissioner of Pensions*, 1910, in *Report of the Department of the Interior*, 1910. *Administrative Reports*, I. 146 et seq.

CHAPTER II

VOLUNTARY VERSUS COMPULSORY INSURANCE IN THE UNITED STATES

The review of the historical development of social insurance legislation in Germany and its spread in other lands has shown the strength of the movement. Its fundamental causes lay in changes in industry and the development of a working class. A transformation of industry similar to that in England and Germany has been taking place in this country. The question is therefore presented, Is a development of insurance legislation in the United States on the model of English and German laws desirable? Is it advisable to substitute a system of compulsory social insurance for individual and voluntary provision against sickness, accident, and superannuation?

The problem may be attacked in two different ways. We may accept European experience as conclusive for European conditions and inquire if conditions in the United States are sufficiently different to warrant a different procedure. Or we may approach directly the special problems of the United States and arrive at our own conclusions independently and without especial reference to conditions abroad.

The first method suggests at once the difference between European and American conditions. America is a new country with a wealth of undeveloped resources. We are still predominantly agricultural. Until recently there has been a surplus of free land available. England, Belgium, parts of France and Germany are highly industrial. It is only in our eastern manufacturing states and in our mining states that industrial conditions similar to those of Europe are found and that a permanent working class has begun to

be formed. This contrast between American and European conditions may help to explain why American social insurance legislation has been late in starting. The existence of the frontier and the availability of free land have fostered a vigorous individualistic spirit. Accident-compensation legislation has been retarded by the difficulty of constitutionality. Legislation on old-age pensions has hardly been so urgent here as abroad. The present aged population, a much smaller proportion of the total than in most European countries,¹ is comparatively well off, especially in the agricultural states—a condition to which the ease of acquiring land may have contributed. In Massachusetts only 31.7 per 1000 of the population over 65 were in receipt of relief (1909)² as compared with 172.0 per 1000 in England. The treatment of the negro problem in the Southern states offers certain peculiar difficulties. Finally, the whole level of wages and of standards of living is considerably higher in America than in European countries.

Other striking differences could be pointed out and discussed. But a satisfactory solution of the problem may be reached only by a direct study of our own problems. In the mining and manufacturing states we have a large and increasing body of workers the majority of whom can never expect to achieve economic independence. Rubinow estimates, on the basis of computations made by I. A. Hourwich, that out of 29,000,000 persons "gainfully occupied" in 1900 there were 15,000,000 wage-earners, of whom nearly two thirds were workers employed in industry.³ Conditions here are beginning to approximate European conditions. These workmen and their families need to be protected against sudden fluctuations of income by reason of acci-

¹ In 1900 6.4 per cent of the population of the United States were over 60; in England and Wales, 7.4 per cent; in Sweden, 11.5 per cent; in France, 12.5 per cent.

² Massachusetts, *Report of the Commission on Old Age Pensions, Annuities and Insurance*, 44 (Jan. 1910).

³ Rubinow, *Social Insurance*, 29.

dent, sickness, and old age. Can such protection be secured under American conditions by voluntary and individual provision?

The end to be achieved is commendable. If protection is left to individual initiative, whether or not a workman will insure depends upon his appreciation of the need and upon his financial ability to carry out his good intentions. The average worker probably does not concern himself seriously with the uncertain contingencies of the future; present necessities are too immediate and too pressing to permit expenditure on future objects. The worker is not an "economic man" who settles his expenditures by reason. Present enjoyments loom larger in the mind of the wage-earner than possible future suffering.

Even if the worker has good intentions, financial circumstances will often prevent them from being carried out. The surplus of receipts over expenses varies greatly at different periods of life of the average workman. During a period of surplus, some part of it may be used for insurance against loss of income; but when the pinch comes, the insurance is likely soon to be given up. The proportion of lapses among industrial policy holders¹ is much greater than

¹ "In 1901 the three large industrial insurance companies which do over 95 per cent of the whole industrial insurance business in this country had 12,522,000 policies in force. By the end of 1911 the number increased to 22,760,000, an increase of some 10,338,000 policies. But during the same ten years 38,593,000 policies were written. Even assuming a uniform mortality of 25 per 1000, which is, of course, very much too high, and an average of 16,000,000 policies in force during the ten-year period, or 4,000,000 deaths, it will leave over 24,000,000 policies unaccounted for—most of them discontinued through irregularity of payment of the weekly premiums. Thus, in 63 per cent of all cases the agent system proves ineffective, which is a worse showing than the voluntary system makes in some European countries." Rubinow, *Social Insurance*, 421.

The 24,000,000 lapses should be compared to the sum of the new policies, 38,593,000, and those in force at the beginning of the period, 12,522,000, to get a percentage of lapses. This gives approximately 48 per cent of lapses.

in ordinary life insurance, on account of the very narrow margin of surplus and on account of the pressure of present wants upon the workman.

That the average workman is little capable of continued thrift without supervision is shown by the methods adopted by industrial life insurance companies in collecting premiums. Agents are sent to call each week to collect dribbles of surplus earnings. An obligation assumed will not be met unless the workman is constantly reminded of it and unless it is brought to his attention as a payment that must be met. By the method of collection he is brought to realize that the insurance must be paid before other expenses are reckoned. His resolution must be kept up to the point of action by weekly visits.¹ The expense of this method of collection can be justified from the point of view of the insurance company on the ground that it is necessary. That it is necessary shows at once the difficulty of voluntary insurance among workmen. By the irony of fate, the cost of administrative expenses including collection amounts to approximately 40 per cent for industrial² as against 20 per cent, more or less, for insurance of the middle classes. Insurance of this kind looks like a costly luxury for the wage-worker.

Probably almost any workman can be persuaded of the desirability of insurance against accident, sickness, or old age, as an abstract proposition, by a skilful and persuasive agent. The dangers and the risks of not insuring can be portrayed without stretching truth and be made a most convincing argument for insurance. The success of voluntary provision depends then upon the degree of resolution with which the average workman can be induced to persevere in his efforts. In securing this perseverance,

¹ "The small saving power of this class is shown in the failure of every attempt at having the payment periods as far apart as a month." Hamilton, *Savings Banks and Savings Institutions*, 94, note.

² Rubinow, *Social Insurance*, 425.

the methods of collection and the form of organization are the essential factors of success.

Workmen may insure individually in industrial or accident insurance; they may join fraternal organizations; or they may make mutual provision through trade unions or mutual societies. In each case the degree of tacit compulsion is the degree of success. The success of industrial insurance is due to the system of persistent collection, which compels the workman to provide first for his insurance out of his weekly earnings. Where lapses occur, it is because the compulsion is not strong enough; the appreciation of the need has weakened under the realization of the cost. In the trade union and in mutual labor organizations, the men are held together by a common purpose of maintaining wages and making collective contracts. Contributions made to the general treasury and used largely for accident and sick benefits are an additional bond of strength, but the success of the benefit features is due to their secondary character. A very real compulsion is exercised upon the membership for dues, including the contributions for insurance. Usually these dues are collected at short intervals.

Voluntary individualistic effort will undoubtedly meet with partial success in insuring and providing for a part of the working class. Some will be insured against all contingencies, others against some particular ones which appeal most strongly to them. The remainder, a smaller or larger portion, depending on wages and on the general level of intelligence, will remain unprovided for.

How much has voluntary insurance accomplished in the United States? What proportion of the working population is insured against accident, sickness, or old age?

Industrial insurance, that is insurance providing for funeral expenses and a little besides, is widespread. Rubinow gives figures for the extent of industrial insurance in the United States for 1911. In 32 companies, 24,708,499

policies were in force, with a total amount of insurance of \$3,423,790,536. Nearly 27 per cent of the population of the United States were carrying industrial insurance. The average amount of the policies, in 1881, was \$91; in 1891, \$112; in 1901, \$133; and in 1911, \$138.¹ The success of this form of insurance is due to the active campaign for the extension of such insurance on the part of the industrial insurance companies, to the regular weekly collection of premiums, and to the acceptance by the workingmen of funeral insurance as a part of the standard of a decent living. But it cannot be considered a success from every point of view. The cost of administration and collection absorbs relatively a very large proportion of the total premium receipts. Two fifths of the premiums collected must be paid for expenses of securing and managing the business. A very large number of lapses take place in spite of the system of regular collection. From the figures and estimates of Rubinow, 48 per cent of all the industrial policies lapse.²

Besides industrial insurance companies, workingmen are protected by insurance through trade-union and establishment funds and in fraternal and mutual aid associations. A report of the Commissioner of Labor contains statistics of death benefits given by workingmen's insurance and benefit funds. All the national unions that had any benefit features paid death benefits. Seventy-nine unions, with a membership of approximately 1,300,000, paid \$5,071,470 in death benefits in one year.³ Nearly four fifths of this was paid out by ten railroad unions for 2621 deaths.⁴ These railroad unions pay substantial amounts, the average being about \$1500. The other national unions give only nominal

¹ Rubinow, *Social Insurance*, 418-419.

² *Ib.* 421, Cf. *supra*, 23, note.

³ *Workmen's Insurance and Benefit Funds in the United States*, in *Twenty-third Report of the Commissioner of Labor*, 31 (1908). The membership is estimated from the number of deaths and the death rates.

⁴ Calculated from table, *ib.* 48-51.

sums, practically funeral benefits. The average amount paid (7200 cases) was approximately \$150. Local unions with 135,000 members gave small death benefits. Thirty-four railroad relief funds insured another 300,000; benefits in one half of these were fairly substantial; in the other half they ranged from \$50 to \$400. Four hundred and nineteen establishment funds had a membership of over 300,000 workers. In these different organizations there are over two million workingmen insured.

Fraternal societies had in 1911 ten million life policies outstanding.¹ Rubinow estimates that not over one half belonged to the working class or to the class of salaried employees.²

Altogether, a very large proportion of the working population have made some provision for meeting funeral expenses and providing a sum to meet the immediate need of the family after the death of the wage earner. The amounts received are in most cases small.

Insurance against accident, sickness, and old age is not so well developed. Rubinow gives estimates of the extent of provision for sickness among workmen in the United States. Many of the national and local unions have benefit features, and a small proportion give benefits for temporary disability. In the benefit funds, establishment funds, and railroad funds others are insured against sickness; in these and in unions a total of approximately 1,130,000 workmen are insured.³ A total of approximately \$4,480,000 was paid out in benefits in 1907. In the mutual sick-benefit associations, including the fraternal organizations which made provision for sickness, 825,770 certificates were in force at the close of 1910, and \$2,375,967 was paid out for claims.⁴ Part of the membership of these

¹ Rubinow, *Social Insurance*, 424.

² *Ib.* 426 and 293.

³ *Ib.* 292.

⁴ *Ib.* 294.

fraternal associations is composed of business and professional men.

Casualty insurance companies issue accident and health policies. Probably but a small proportion of these policies are taken out by workmen, because of the system of yearly premiums employed. Industrial accident insurance proper, with smaller premiums, forms but a small part of the total business. In 1911, according to figures given by Rubinow, the total amounted to \$35,000,000, of which not over one fifth, or \$7,000,000, could be placed to the account of industrial policies; of the total amount of health insurance, \$7,100,000, not over \$1,500,000 is taken by workers. This sum would represent perhaps 200,000 workmen.¹ Altogether, possibly 2,000,000 of the wage workers of the United States are insured against sickness or accident. While this showing is in itself a remarkable one, it still falls far short of an adequate or a complete insurance of the working classes against accident or sickness.²

There is practically no insurance against superannuation among the workmen of the United States. Of the 1200 funds operated by workmen in connection with their organizations reported on by the Commissioner of Labor in 1908, only four paid superannuation benefits, although four more had planned to establish such a benefit feature. One of these paid benefits to 1808 members, only 39 of whom were in the United States; another had 118 pensioners and a third 172.³ No actuarial examination of such funds has been

¹ Rubinow, *Social Insurance*, 296.

² The social value of these industrial policies is somewhat questionable. Only a small part of the premiums paid in goes for the settlement of claims. In health insurance given by the casualty companies, Rubinow states that, "in many companies not over 35 per cent. and in some only 30 per cent. . . . of the premiums return in form of benefits to the insured." The payments made by the mutual sick-benefits associations are not equal to one-half of the total income. *Id.* 298, 299.

³ *Workmen's Insurance*, in *Twenty-third Annual Report of the Commissioner of Labor*, 32, 34, and 48-49 (1908).

TABLE I

SICKNESS INSURANCE FOR WAGE-WORKERS IN THE UNITED STATES, 1907¹

Form of Organization	Number of Funds	Number of Workmen Covered (Approximately)	Amount Spent on Temporary Disability
National unions.....	19	375,000	\$ 830,000
Local unions.....	346	100,000	200,000
Industrial benefit funds....	35	55,000	250,000
Establishment funds.....	374	300,000	1,200,000
Railroad funds.....	31	300,000	2,000,000
Approximate totals.....	805	1,130,000	\$4,480,000

¹ Rubinow, *Social Insurance*, 292.

TABLE II

SICKNESS INSURANCE IN MUTUAL ASSOCIATIONS²

Items	1901	1905	1910
Number of mutual sick-benefit associations.....	58	100	119
Number of certificates written.	207,044	478,990	651,776
Number of certificates in force at end of year.....	153,907	517,240	825,770
Total income.....	\$2,091,273	\$4,328,577	\$5,873,638
Total payments.....	1,996,204	3,996,626	5,580,816
Total payments for claims....	927,123	2,077,857	2,375,967

² Ib. 294. Taken from the *Insurance Year Book*.

made. Some of the fraternal associations give old-age annuities. Probably but a small proportion of these are paid to workmen, and the actuarial basis has generally been quite inadequate,—so much so that in many states fraternal organizations are prohibited from giving old-age insurance. Insurance against old age has never been especially popular in ordinary insurance companies, and has been quite neglected until the last few years by the industrial

insurance companies. Voluntary savings-bank insurance against superannuation in Massachusetts, where old-age annuities are sold at cost to workmen, has met thus far with but little success.¹

Employees of railroads are comparatively well protected against superannuation. Railroads controlling approximately 45 per cent of the total mileage of the country have established pension systems.² These pensions are given only to employees of long service. Several of the large trusts and industrial establishments have organized pension funds, some supporting the entire cost themselves, some requiring contributions from the employees who expect to receive annuities.³ Altogether, these provisions, including those of the employers, protect but a small part of the working class. Provision for superannuation is much less developed among the workmen of the United States than provision for accident or sickness.

Statistics of the extent of insurance in countries which leave the responsibility for it upon the workman show that a much smaller part of the working class is insured than in countries which have a compulsory system. Estimates for the relative extent of insurance under voluntary and compulsory systems in different European countries have been given in the preceding chapter. Prior to the establishment of compulsory insurance in Germany there was a consider-

¹ Rubinow, *Social Insurance*, 411-412. Cf. Massachusetts, *Annual Report of the Bank Commissioner*, Part I. vii-x; 390-393 (1913).

² Cf. Squier, *Old Age Dependency*, Chap. IV. 109-138. Also *Report*, Massachusetts, 136-137 (1910). The mileage of the railroads mentioned has been computed from Interstate Commerce Commission, *Bulletin of Revenues and Expenses of Steam Roads in the United States for the month of December, 1912*.

³ Squier reports on 29 industrial enterprises with pension systems. The Massachusetts Commission sent 1000 inquiries to employers of the state; of 362 replies, only four reported a regular system of retirement for employees, though others have pensions in special cases. Rubinow, *Social Insurance*, 396. Squier, *Old Age Dependency*, Chap. III. *Report of the Massachusetts Commission*, 151 et seq.

able amount of insurance among workers against sickness, an employers' liability law which was fairly liberal for the employees of the railroads, and some slight provision against old age and infirmity. But only a portion of the working class was covered. In those occupations where the largest proportions were insured, insurance was compulsory. A large number still neglected to make any provision. The Government urged in 1882, in advocating the compulsory measure, "Experience has abundantly shown that the universal adoption of sickness insurance, which must be characterized as one of the most important measures for the improvement of the condition of the working classes, cannot be effected on the lines of the [voluntary] legislation of 1876."¹

The issue between voluntary and compulsory insurance is, then, the question of the desirability of insuring all, including the more improvident portion, of the working class. Those who would take insurance voluntarily and make the payments that would be prescribed by compulsory insurance are practically unaffected. Those who would make provision on their own initiative but who lack the perseverance to continue to insure are prevented under a compulsory scheme from letting their policies lapse. Those who would make no provision at all if left to themselves are required to contribute. Is an adequate and complete insurance of members of the working classes against these various contingencies worth while from a social point of view?

It may be urged that it would be better for society if the thriftless, those who do not insure themselves voluntarily, were eliminated or made to suffer the penalty of lack of provision. This objection deserves a careful consideration, for if thriftlessness is an undesirable quality and if it can be eliminated or lessened by the refusal to extend compulsory insurance to all classes of workmen, should we not prefer

¹ Dawson, *Social Insurance*, 8.

the system of inadequate voluntary provision with its more rigorous weeding out of the unfit or undesirable members of society?

But is thrift an element of character that is inherited? In accident cases, where the injured man is fatally hurt, the burden of loss falls upon the widow or the orphan children. If failure to take out insurance is an evidence of thriftlessness on the part of the husband and father, can the conclusion be fairly drawn that the survivors lack that quality? Without proof that thrift is an inherited character, the argument fails.

But there is considerable evidence to show that thrift is a social product; it can be inculcated by education and is affected by environment. The sons of the thrifty immigrant soon adopt the ways of the new country and the new standard of living may not allow room for the exercise of the paternal thrift. Standards of living may change and the margin between income and living expenses may be reduced; the amount of effective saving or thrift is necessarily dependent upon the standard of expenditure. In determining this standard social influences play a decisive part.¹ The exercise of thrift depends also upon the opportunities offered for the investment of savings. In a growing agricultural community, the demand for additional capital to improve land and equipment offers a direct and strong stimulus to saving.² When the need for capital is met according to prevailing standards the incentives to save are correspondingly reduced.

The influence of education on thrift is illustrated in the numerous experiments with systems of school savings. In France in 1892 there were 23,375 schools which received the savings of their pupils, and 478,173 children had deposits aggregating 12,683,312 francs.³ The success of

¹ Johnson, *Influences affecting the Development of Thrift*, in *Political Science Quarterly*, XXII. 237-244 (1907).

² *Ib.* 227 et seq.

³ Cf. Hamilton, *Savings Banks and Savings Institutions*, 70-87, esp. 71.

the Belgian subsidized old-age-pension scheme is due mainly to the agitation in the schools. The increase in the number of depositors following the grant of subsidies was largely an increase in the deposit accounts of children after a campaign of education.¹

To argue that failure to provide for accident insurance signifies improvidence or lack of thrift or other undesirable qualities is to ignore the possible special circumstances of the individual case. A workman who places educational opportunities for his children ahead of insurance or provision for old age ought not to be judged so rigorously. From the standpoint of a workingman laying out his limited weekly wage in the best way, the demand for accident or other insurance must seem of comparatively small weight. Accidents do not single out exclusively the undesirable, and claims for survival would probably be more justly decided on other grounds than the presence or absence of insurance.

Lack of forethought for old age may affect surviving children if they have to support their parents in old age. But if there are no surviving children failure to provide savings affects directly merely the improvident themselves. The question to be considered here is whether the existence of severe hardships attendant upon destitution in old age is a necessary spur to thrift among the younger classes of the population. The duty of the State to care for its pauper population is recognized in these times; the aged poor will be cared for in almshouses, if not by insurance or pensions or by their own savings. The question is therefore not one of survival, but whether insurance or pensions will

¹*Workmen's Insurance and Compensation Systems in Europe*, in *Twenty-fourth Annual Report of the Commissioner of Labor*, I. 521, 518, Belgium (1909). The ratio of new accounts opened by depositors under twenty to the total new accounts in the General Savings and Retirement Fund was in 1900, 49 per cent; 1901, 50; 1902, 45; 1903, 32; 1904, 45; 1905, 45. The low percentage in 1903 is due to the transfer of soldiers' pensions to the fund by virtue of the law of March 21, 1902.

diminish thrift among that part of the population not yet arrived at advanced age. The treatment of this subject is reserved till a later chapter.¹

The question of the effect of lack of forethought for accident and sickness insurance is not between survival and elimination. In few cases does it mean so much as the latter. It involves, rather, whether orphan children will be given the barest minimum of subsistence, pinched by need, forced to forego educational opportunities, and put to work at the earliest possible age; whether the widow will be forced to work and neglect her family, or have to apply for charity. It is the question whether these children will be allowed to make the best use of their opportunities to become good citizens or whether all conditions will be made difficult and the chance of their becoming worthy members of society be materially reduced. A higher death rate may eliminate some; but the survivors will nevertheless probably be of poorer quality and more poorly equipped than otherwise. This is the important aspect of the problem from the social point of view.

It does not by any means follow, as the argument under examination has assumed, that under a régime of compulsory insurance there will be a survival of unthrifty elements in society. Compulsory insurance has an educational value in developing thrift. It applies the spur of compulsion, with the result that substantial savings are actually accumulated by the working classes and applied to the needs of those affected by accident, infirmity, and old age. Thrift will be practised more rather than less under a system of compulsory insurance. Those members of the society whose impulse to save is weakest are assisted by the group; the society as a whole becomes more fit to survive. A society whose members are all provided against disastrous losses from insurable contingencies has a clear advantage over

¹ Chapter IX.

a society leaving such provision to individual action. Coöperation is an element in survival of no small importance.

Compulsory insurance, then, presents from a social point of view decided advantages over a policy of voluntary insurance. There remain to be considered the complex problems of cost. The chief opposition to social insurance centers almost wholly on the question of division of cost between employer and employee. There would be little or no opposition on the part of employers to compulsory insurance of workmen if the workmen bore the entire cost, and *vice versa*.

Opposition to compulsion *per se* is usually merely a form of argument to cloak the real motive for opposition. By itself the compulsory character of social legislation can not be considered a valid objection. Attendance upon the public schools is compulsory in all advanced nations, because it is held to be socially desirable. In individual cases it may seem a temporary loss. A measure which is recognized as socially advantageous will not be condemned merely because it involves compulsion. Opposition to compulsion acquires significance only when considered with reference to a particular method of collecting or apportioning premiums. The opposition on the part of workmen in France to the compulsory old-age law was directed against the enforced deductions from their wages prescribed by it.

The crux of the problem therefore lies in the apportionment of cost between employer and employee. Assessment of part of the cost upon employers will mean that a complicated shifting process will commence and economic changes of more or less importance may follow. Assessment of the entire cost upon employees would probably be politically impossible. Against advantages which would result from a measure of compulsory insurance must be opposed such social and economic disadvantages as might result from the weight of the burden. The question is a

complicated one in which economic, political, and ethical considerations, in great variety, must figure.

The historical development of the division of the burden throws a good deal of light on the matter. The employer was originally held liable for negligence resulting in accident and later for neglect to provide proper safeguards for accidents, though for a long time he was not responsible for accidents to employees caused by their own fault or the fault of fellow-employees. Appreciation of the fact that frequency of accidents was dependent upon the character of the industry led to the notion that it was socially justifiable to lay the entire burden on the employer. This was strengthened by the realization of the fact that existing remedies were inadequate to meet the situation.

Similarly with insurance for sickness and old age: Employers of domestic servants were required to provide in case of sickness for the care of their help and this was extended to other occupations. In the German sickness insurance law the liability of the employer was assessed at one third of the total cost. Employers had contributed towards the funds of miners' organizations for provision for aged and infirm as well as injured persons, at first with a contribution determined by themselves, later with a legal minimum limit. In the German invalidity law employer and employee contribute equally.

Political conditions play a large part in such legislative apportionment. The respective power of business and of labor interests, the fear on the part of legislatures of the consequences of opposing labor measures, the fear of alienating the sympathy of the working masses armed with votes, are decisive factors in distributing costs. In an effort to diminish the power of socialistic agitation, as in Germany, business interests may be induced to cooperate and to agree more or less willingly to accept a share of the burden of insurance. A compulsory accident insurance law for all workingmen, requiring contributions exclusively from labor,

would be economically advantageous but politically impossible and socially unjust. A compulsory old-age insurance law requiring the entire expense to be borne by labor has proved to be politically possible in Sweden, where contributions practically in the form of a poll tax are levied on all persons, male and female (except certain specified classes), between the ages of 16 and 66.¹ Compulsory deductions from salaries are made in case of the teachers' pension law of Massachusetts. But the old-age insurance law of France met with vigorous resistance to its execution on the part of mutualists because of an attempt to deduct one half of the cost from wages.²

Economic questions play an important part in the problem of justice and expediency. Does a burden placed upon the shoulders of the employer mean that it really rests with him, or does he shift it to the public or back to the laborer disguised as lower wages? Is the opposition of employers to workmen's compensation and to social insurance based on any real or ultimate disadvantage to themselves or to industry, or is it simply a blind holding-on to existing conditions, and opposition to change? Will the establishment of insurance be coupled with any alarming tendencies toward a reduction of thrift or an increase of accidents? An answer to these questions must be given before a fair estimate can be arrived at of the social desirability of any given measure. Is there a balance of advantage in securing the benefits of the compulsory insurance of workmen at an expense of a burden of unknown weight upon employers and industry?

¹Cf. translation of law in *Reichs-Arbeitsblatt*, XI. 858 et seq.

²Cf. *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, XII. Rundschau, columns 449-50, 676, 1303-04 (1912).

CHAPTER III

THE BURDEN OF ACCIDENT COST

In the United States, of the total cost of accident, sickness, and infirmity, no considerable part has been laid on the employer. The employer has been made legally responsible for a share of the cost only in case of accident. Liability has been imposed under the common law of negligence, developed by interpretation and amended by statute. In the last few years workmen's compensation legislation has been enacted in many states.

The amount of the burden of cost laid on industry has varied with changes in the law of liability, in its interpretation, in the zeal with which claims for liability have been pressed, in the character of awards for damages, and also with changes in the rate of accident. The main features of the changes in the law of liability are well known and scarcely need discussion. But the amount of the burden laid on industry with a given legal liability depends to a large extent upon the attitude toward liability for accidents prevailing among workmen and in the community. It may therefore be worth while briefly to review changes in this attitude toward employers' liability, and to show the connection between these and changes in the common law and in the burden laid upon employers.

In the medieval system, under conditions of service or servitude, there was no liability of master to servant. Compensation could be recovered by the master if the servant was injured or killed by the act of a stranger. It was a change of far-reaching significance when the right to recover was held to vest in the victim. But the victims were slow in recognizing the importance and in reaping the fruits of it.

Accidents used to be accepted by all classes as a manifestation of the will of God. In seafaring, one of the preëminently dangerous occupations, death or injury was hardly regarded as unusual. There was little thought of holding the employer liable for losses due to accident. Accidents were so often caused by the action of the forces of nature that to hold the employer liable would have seemed like holding him responsible financially for the acts of God. Where this theistic explanation of accidents did not prevail, the individual was held to be responsible for his own fate. Accidents were caused only by gross carelessness on the part of the injured man. Any one observing ordinary care could avoid injury. Where such conceptions as these prevailed, no great burden was laid on industry by common law liability for negligence.

As large-scale production has become more prevalent, as factories have increased in size, and as larger groups of workmen have been brought together in a common place of work, this conception of individual responsibility has been modified. In the first place, it becomes obvious that a workman may be injured by the act or negligence of a fellow servant, for whose acts he is in no way responsible and over whose selection he had no control. In the second place, where large numbers of workmen are brought together, it becomes possible to observe a conformity to law, a regularity in the frequency of accidents. Given men of average intelligence and carefulness, a certain number of accidents of a given type will occur every year. It becomes possible to predict with some approximation to accuracy how many accidents will take place among a large group of workmen. Whether a particular man will be injured depends on specific causes, but these are no longer looked upon as the only significant facts. Where workmen can be observed and treated in groups, the importance of the group result begins to be appreciated.

The new appreciation of the significance of accidents has

caused a change in attitude toward compensation for injuries. Employers of large groups are more ready to recognize the justice of a system of compensation based on the group phenomenon in place of insisting on a principle of individual responsibility no longer applicable to all cases. Workmen, observing accidents caused by negligence of fellow servants affecting men in other departments, have become conscious as a group that the old system in many cases wrought hardship and was unjust. Close association of large numbers in factories has favored the development of a group consciousness. Legislators have gradually come to the conclusion that social welfare demands that men injured in accidents be adequately compensated, if only to avoid penalizing their dependents and survivors. Accidents may seem to be caused proximately by special individual causes; yet the group result, the regular recurrence every year of nearly the same number of accidents, makes an adequate provision for survivors and dependents, who are in no way to blame for the accident, the only reasonable course for an enlightened social policy to pursue.

With such an attitude prevailing, claims for damages will tend more and more to be pressed to the legal limit, awards of damages by juries will be more and more favorable to plaintiffs, till finally employers' liability legislation is superseded by workmen's compensation laws.

These changes in point of view bring out the significance of the changes in the common law of liability. At first the employer was liable for damages only if he was proved to be negligent, and in few cases was it possible for satisfactory proof to be brought. The industrial revolution, the development of the system of factory labor, the introduction of steam transportation, brought new problems of the relation of negligence and accident for the courts to decide; the common law was extended by new interpretations suggested by the view of justice and public policy held by the judges making the decisions. These interpretations in most cases

ran counter to the change in attitude toward accidents caused by the new conditions. The fellow-servant doctrine held that the employer was not liable for damages if the accident was caused by a fellow servant. Let the injured man recover from the workman at fault. The doctrine of assumption of risk held that the employee was familiar with and assumed the risk of employment. Where repairs had not been made, or where safety laws had been violated, the employee could not recover damages if it could be proved that he knew of these conditions and had neglected to give notice of defects; he lost his claim to damages if he continued to work after a reasonable time had elapsed and nothing had been done. Contributory negligence, no matter how slight, on the part of the injured workman forfeited all claim to damages.

Modifications in these doctrines were made when the essential hardship of the rules of interpretation was realized. These modifications were made in the newer court decisions. Employers' liability laws were passed, codifying these and introducing other changes. One important change introduced was the shifting of the burden of proof in case of workmen injured in railroad accidents. The workman was no longer required to bring proof of the negligence of the employing corporation, but the employer had to prove that there was no negligence on his part, or offer some other defence to escape liability. The fellow-servant doctrine was modified. Superintendents and foremen, men in an over-seeing or directing capacity, were regarded as agents of the employer, to whom the fellow-servant rule no longer applied. Workmen employed in different departments of an industry were no longer classed as "fellow servants" in the meaning of the legal phrase. The doctrine of assumption of risk was definitely excluded as a defence where safety laws had not been observed or had been violated.

These modifications of the common law, coupled with the increasing readiness of injured workmen to press their

claims for damages, have placed upon employers a larger and larger burden of accident cost. Employers have been forced to pay damages for accidents in a gradually increasing proportion of cases of accident. The amount of damages awarded depends somewhat upon the concept of a fair award for injury prevalent in the community or among workmen. The standard of a fair award is probably rising, as more and more importance is placed on human life. Juries nowadays are more likely to make high awards than formerly, especially where the employing company is a railroad or a large corporation. On the other hand, efforts are made systematically by large corporations, employers of large numbers of workmen, and insurance companies to reduce the amount that they are called upon to pay. Cases in court may be fought to the last ditch in the effort to exhaust the financial means of the claimant for damages or to discourage other claimants. Sometimes cases are appealed to secure judgments that may serve as favorable precedents for future trials. More frequently cases are settled out of court for a small sum in ready money, which though far less than adequate compensation, may be accepted in lieu of expensive litigation and a larger contingent award of damages.

All the factors thus far considered have worked together to increase the burden of accident cost. There remains the question of the accident rate. The total number of accidents since the great increase of population following and accompanying the industrial changes of the last century has undoubtedly increased enormously. The accident rate, or the number of fatal or serious accidents per 1000 workmen exposed to risk, has probably decreased. Seafaring is not so dangerous as it used to be. The steamship is probably safer than the smaller sailing vessel. Wireless telegraphy can now summon aid to men on a ship burning at sea or sinking after a collision with an iceberg. The danger of accident in coal mining was greatly reduced by the inven-

tion of the safety lamp, and improvements in hoisting apparatus and in other mining machinery have undoubtedly reduced the accident rate. The railroad has made possible grewsome mass-accidents involving passengers and employees that attract the attention of the public to the dangers of traveling; it has also made tramp life more dangerous; but there is little reason to suppose that the accident rate per 1000 employees is much greater than for the means of transportation extensively used before the introduction of the steam locomotive. Railroad accidents have been decreased by the introduction of the block system, by the use of safety coupling devices on freight and passenger cars, and by the use of cars with steel frames. Careful selection of employees and early pensioning and retirement of men subject to the greatest strain have had an effect in reducing the accident rate. Factory labor, even where machinery is extensively employed, is not necessarily dangerous. Woolen and silk manufacture rank among the least dangerous occupations.¹ Some of the occupations least affected by industrial changes remain among the most dangerous,—for example those of the general laborer, the coal heaver, the dock laborer, the costermonger, and the fisherman. Even for agricultural labor there is little reason to suppose that the risk of accident has increased with the increase in the use of agricultural machinery. The old fashioned scythe probably took a larger toll of accident victims than the more modern mowing machine. Minor accidents, especially those requiring surgical aid, often proved serious or even fatal in the days before the discovery of antiseptics and before modern surgery had been developed. Immediate attention to injuries made possible by preparation for "first aid to the injured" in large establishments reduces in many cases the seriousness of the consequences of accident.

The decrease in the accident rate for serious or fatal accidents tends partially to offset the increase in liability for

¹ Cf. *infra*, 72.

accident placed upon industry and the greater liberality in measuring awards of damages.

The best evidence of the burden of accident cost borne at present by industry in this country is afforded by quotations for employers' liability insurance made by insurance companies. Rates are expressed as percentages of pay rolls. They vary with the frequency of accident in the industry considered. They vary also according to the law and interpretations of the law in the different states. An investigation in 1910 into the cost of employers' liability classified the states into nine groups according to the average premium charged to cover liability in representative occupations. New York stood in Class V, midway between the highest and lowest quotations. From the figures quoted in Table I and other tables an idea can be formed of the burden of accident insurance now placed upon industry in various occupations.

TABLE I
COMPARATIVE RATES IN CERTAIN DANGEROUS INDUSTRIES

Industry	New York ¹ Employers' Liability Law	New York Workmen's Compensation Law of 1910	Accident Insurance Germany's ² 1908
Carpentry	\$1.75	\$5.00	\$2.32
Bridge building (iron) . . .	4.50	12.50	4.21
Quarries (stone)	2.00	7.50	3.18
Railways (steam)	2.50	10.00	1.82
Tunneling	4.50	12.50	3.75
House-smithing	2.00	6.25	1.36

¹ *The Report of the United States Employers' Liability and Workmen's Compensation Commission*, II. 282. "The New York rates are average rates actually charged, given on the authority of an officer of a leading company."

² M. M. Dawson, *Cost of Employers' Liability and Workmen's Compensation Insurance*, in *Bulletin of the Bureau of Labor*, XXI. 778-783 (September 1910).

If a transition is made from employers' liability to workmen's compensation, with more adequate benefits for injured persons and their survivors and dependents, some increase in the burden of accident cost must naturally be expected. How great will that increase be? Some light is thrown on the amount of increase by the figures given above, quoted by insurance companies for insurance of employers against payment of compensation benefits. The insurance company in return for a percentage of wages paid agrees to pay all benefits required under the workmen's compensation law. In six principal dangerous industries in New York State, the rates for a liberal benefit under the compensation law of 1910, later declared unconstitutional, were approximately three times the old rates charged under employers' liability. This may be taken as an outside estimate of the difference in cost of workmen's compensation and employers' liability in these dangerous trades in this state. In the nature of the case the rates charged under the compensation act were tentative, based on estimates of cost rather than on experience. These charges would be more likely to err on the side of greater profit than to fail to cover the risk. Mutual companies would not hesitate to charge an excess premium, part of which could be returned later if the cost was found to fall below the rate charged.

For comparative purposes the rates in percentage of pay roll for Germany have been added to the table. The German rates represent the yearly cost of liberal benefits as assessed by mutual employers' associations on a cost basis. They are based on the yearly requirement for 1908. Each year the cost of current pensions only is levied; the number of new pensions granted exceeds slightly the number of those which are withdrawn because of death or recovery from injury. This cost will normally continue to increase slowly, but with a slackening rate, for some years to come until the total number of pensions cancelled equals the total number added. In 1908 twenty-three years had already

elapsed since the establishment of compulsory insurance, and the annual rate of increase had become so small that the rates may be accepted as nearly equal to the full cost of adequate workmen's compensation in Germany.¹

The comparison is an interesting one. In only two cases are the rates for adequate compensation administered at cost in Germany greater than the liability insurance company rates. In every case the quotation for workmen's compensation in New York was over twice, and in three cases over three times, the cost in Germany. This exhibit is the more remarkable because compensation for industrial accidents is measured on quite as liberal a basis as that proposed under the New York law of 1910, and as the form of quotation eliminates the difference in the level of wages in Germany and New York as a factor affecting the quotations. It is probable that the accident rate in New York is greater than in Germany. There are unfortunately no satisfactory

¹ The figures for the total number of pensions current, the new pensions added, those subtracted, and the net increase are as follows for the years 1908-1912. They apply to the pensions granted by the Industrial Employers' Associations.

INDUSTRIAL ACCIDENT PENSIONS, GERMANY, 1908-1912

Year	Number Pensioners		Total (1)+(2) (3)	No. Subtracted (4)	Net Gain (5)
	From Previous Year (1)	Added in Fiscal Year (2)			
1908.....	448,878	74,581	523,459	63,684	10,897
1909.....	459,775	70,986	530,761	68,599	2,387
1910.....	462,162	69,311	531,473	67,534	1,777
1911.....	463,939	70,423	534,362	76,447	-6,024
1912.....	457,915	74,488	532,403		

This shows an average increase of .5 per cent per year, or 2.1 per cent increase in the four years in the total number of pensions current. Columns 1, 2, and 3 are taken from *Ämliche Nachrichten des Reichsversicherungsamts*, No. 1, January 15, 1910-14, Table I.

statistics that can be used for comparative purposes. A greater frequency of accidents would account for part of the excess of the rate here, but hardly for the entire difference.

To throw more light on the question of the proportion of the cost of accident compensation which merely covers the burden of employers' liability, the rates in a number of industries not specially selected for danger are compared, in Table II, with German assessments and state and private company rates for workmen's compensation. For a majority of these industries the German rates are higher than the present charges. The quotations of the state insurance funds are slightly higher than those in Germany, though usually for a less adequate benefit. The rates quoted by the private companies for workmen's compensation are in most cases very considerably in excess of the state insurance rates and much higher than the cost in Germany. In a particular industry accident conditions in Germany may be different from the conditions in this country. It is possible that the frequency of accidents is less there after twenty-three years of accident insurance than in this country. If the rates in Germany may be accepted, with reservations for differences in accident rates, as a rough index of the cost of compensation, and the premiums of employers' liability insurance are expressed as percentages of this cost, the median of these percentages indicates that approximately one half of the cost is now laid on industry.¹ As a conservative estimate one third or possibly two fifths of the cost of workmen's compensation is already laid on the employer in these industries.

¹ The average indicates that three fifths of the cost is laid on industry, but the median is the more significant index.

TABLE II
COMPARATIVE RATES IN PERCENTAGE OF PAYROLL FOR SPECIFIED INDUSTRIES FOR EMPLOYERS' LIABILITY, ACCIDENT
INSURANCE, AND WORKMEN'S COMPENSATION

Industry	Employers' Liability New York	Accident Insurance Germany (1908)	Workmen's Compensation				Workmen's Compensation		
			State Insurance Rates				Company Rates		
			Nevada	Ohio	Wash- ington		Illinois	New Jersey	Wisconsin
Confectionery manufacturers.....	\$.38	\$.55		\$.50			2.00	1.50	2.10
Acid manufacturers.....			2.00	.85			4.05	3.00	4.20
Car manufacturers, railroad.....				1.30	2.50		4.70	3.50	4.90
Coal miners.....	1.20 ¹	{ 1.32-2.28 ³ .87-2.49	3.00	1.50	3.00		15.00	6.00	8.40
Carpenter contractors.....	2.03	2.32	3.50	2.30	3.50		4.50	3.75	5.25
Mason contractors.....	1.31-2.75	2.32	5.00	3.00	5.00		6.30	5.25	7.35
Electric light and power companies	1.62-2.93	1.10	2.50 ¹⁴	3.10	4.10		7.20	6.00	8.40
Harness and saddle manufacturers.	.39- .52 ²	.82	1.50	.55	1.50		1.65	1.25	1.75
Sawmill.....	1.46	4.19	2.00	1.45	2.50		5.60	4.50	6.30
Planing mills and lumber yards.....			2.00	1.05	2.50		4.05	3.25	4.55
Meat packing and stockyards.....	.97-1.31 ³	1.18	2.50	.90	2.50		3.35	2.25	3.50
Machine shops.....	.65- .79	1.69	2.00	.70	2.00		2.50	2.00	2.80
Machine shops with foundry.....			2.00	.80	2.00		3.10	2.50	3.50
Foundry, iron.....	.65	1.42	2.00	1.05	2.00		3.40	2.75	3.85
Boiler makers.....	1.30	3.80	2.00	1.65	2.00		4.25	3.50	4.90
Flour mills.....	.59	3.05-3.66	1.50	.80	1.50		2.70	2.00	2.80
Mining (except coal), clay.....	3.00 ⁴	.83-1.98 ⁹	2.50	1.50	2.50		8.10	6.00	8.40
Ice, artificial, manufacturers.....			2.00	.80	2.00		3.35	2.50	3.50
Street railway, electric, interurban		1.02 ¹⁰	2.50	2.00	4.00		10.80	8.00	11.20
Street railway, electric, not inter- urban.....									
Oil, fish, lard and tallow manufac- turers.....	.59 ⁵	6.10 ⁵	3.00	1.40	3.00		6.75	5.00	7.00
			1.50	.55	1.50		3.00	2.25	3.15

Blast furnaces.....	1.17	2.64	3.00	2.00	3.00	8.10	6.00	8.40
Iron smelters.....			3.00	2.00	3.00	8.10	6.00	8.80
Paper mills (no saw or bark mills)...			2.00 ¹⁵	1.15	2.00 ¹⁵	3.35	2.50	3.50
Cardboard manufacturers (no pulp mill).....	.65 ⁶	2.55 ⁶	1.50	.85	1.50	2.70	2.00	2.80
Writing paper manufacturers.....	.27	.44	1.50	.90	1.50	1.65	1.25	1.75
Glass manufacturers (no plate or window).....	.09-	.64 ⁷		.30		1.65	1.25	1.75
Printers.....	.27	.44-	1.50	.30	1.50	1.55	1.25	1.75
Rubber manufacturers.....	.38	1.06	1.50	.65	1.50	3.00	2.25	3.15
Freight handlers, stevedores.....				1.45	3.00	8.00	4.00	5.60
Lime quarries, including blasting, crushing.....	2.43 ¹¹	3.18 ¹¹	2.50 ¹⁶	2.65	4.00 ¹⁶	8.10	6.00	7.00
Cement manufacturers (no quarry).....	.81	2.07	2.00	2.25	2.50	5.40	4.05	5.60
Clothing manufacturers.....	.14	.14	1.50 ¹⁷	.20	1.50 ¹⁷	.75	.60	.84
Mattress manufacturers (no spring or wire).....				.30		1.85	1.50	2.10
Tobacco manufacturers (chewing, smoking).....	.16	{ .10- .15 ¹²		.35		1.00	.75	1.05
		1.04						
		3.12 ¹³	3.00 ¹⁸	1.25	3.00 ¹⁸	1.80	3.00	3.50
Great Lakes steamers.....	1.25			2.55		8.10	6.00	8.40
Scrap-iron dealers, shop or yard...				1.35	2.00	3.38	2.50	3.50
Storage, cold or grain.....	1.24	2.52	2.00	.75		2.00	1.00	2.80
Furnace manufacturers.....				.75	2.50	2.80	2.25	3.15
Wood turners.....	.52	1.50	2.00	.75				

¹ Rate under Negligence Law of 1910.² Belt and saddlery factories.³ Slaughterhouses.⁴ Iron mines. Negligence Law of 1910.⁵ Oil factories (linseed and rape).⁶ Pasteboard and paper.⁷ Except tableware.⁸ Upper figures, anthracite mining; lower, bituminous.⁹ Metal, mining and smelting.¹⁰ Electric.¹¹ Ordinary stone.¹² \$.10-.15 for cigar factories without and with motor; \$.104 for tobacco factories (smoking tobacco with motor).¹³ Steamships, rivers, inland lakes and streams.¹⁴ Operation and repair. Construction work, \$5.00.¹⁵ Paper or pulp mills.¹⁶ Rate is for quarries.¹⁷ Working in cloth or textiles not specified.¹⁸ Steamboats, tugs, ferries.

NOTES ON TABLE II

Figures for New York are from *Bulletin of the Bureau of Labor*, XXI. 821-823, No. 90 (September, 1910). They represent premium rates in the form of percentage of payroll as charged by insurance companies under the old law, from the *Employers' Liability Manual*. The rates for employers' liability are different in different states. The *Manual of Liability Insurance* graduates rates in nine classes, Class I a maximum and Class IX a minimum. In New York the rates of Class V are applied. The rates of assessment for Germany are taken from the table, *l. c.*, 778-783. The selection of industries, together with the state and private company rates for workmen's compensation, are taken from *Workmen's Compensation Laws of the United States and Foreign Countries*, in *Bulletin of the United States Bureau of Labor Statistics*, No. 126, 126.

Some idea of the scale of compensation paid may be formed from the following comparison of benefits for permanent total disability.

Germany: two thirds of "annual wages" for life. Only one third of the annual earnings in excess of 1800 marks (\$450) is counted in computing the "annual wages."

Nevada: 50 per cent of wages for 100 months, \$20 minimum, \$60 maximum, total compensation not to exceed \$5000.

Ohio: 66 $\frac{2}{3}$ per cent of wages till death, \$5 minimum (per week), \$12 maximum.

Washington: \$20 per month if single; \$25 if married, for each child under 16 years, \$5 per month, not over \$35 in all.

Illinois: 50 per cent of weekly earnings for 8 years, \$5 minimum, \$12 maximum up to a total of \$3500. If complete disability still continues, then a compensation is paid during life equal annually to 8 per cent of the death benefit, not less than \$10 a month. (This equals roughly one fourth of the annual earnings.)

New Jersey: 50 per cent of wages for 400 weeks, \$5 minimum, \$10 maximum.

Wisconsin: 65 per cent of wages; if nurse is required, 100 per cent after 90 days; no total to exceed 6 years' earnings.

Data are taken from chart facing p. 48 of *Bulletin of the United States Bureau of Labor*, No. 126. For Germany, cf. Dawson, *Social Insurance*, III-2.

The rates of private companies as well as the state rates are of course more or less tentative. In so far as the private companies are mutual, the excess in the rates assessed over cost would be returned in dividends to the members.

The *Bulletin of the Bureau of Labor* gives besides the regular quotations of the *Employers' Liability Manual* an estimate by an employers'

The comparison of the insurance rates quoted by private insurance companies for workmen's compensation with those of the state insurance funds and the German assessments suggests that there is a large element of waste in excessive cost or excessive profit in the system of private insurance. Costs of administration under the compulsory insurance systems of Germany, Austria, and Norway equal approximately 11 per cent of the total assessments, while in Great Britain under private voluntary insurance the expense eats up at least 40 per cent of the premium receipts.¹ What is the state of affairs in the United States? What proportion of the amount which employers pay really reaches the workmen injured? Is the compensation received by the workmen adequate? How large a proportion of the cost still rests on the injured employee and his family or survivors?

Of the payments which the employers make for insurance and protection only a small proportion actually reaches those in need of compensation. The statistics in the report of the New York Commission on Employers' Liability give information on these points. Ten companies which reported their employers' liability business separately received in three years \$23,523,585 in premiums and paid out in the

liability insurance manager of the premium rates actually realized. It is suggested that in many cases the rates actually charged are lower than the manual rates. The average of the percentages which these estimated rates form of the German rates is 50 per cent; and the median is 40 per cent.

The assessments of the mutual employers' associations do not cover the cost of medical attendance and sick money during the first thirteen weeks. These are provided by the Sick Funds. It is estimated that the Sick Funds bear twelve per cent of the cost of accident compensation. Consequently the figures given for the rates of assessment must be increased on the average twelve per cent to cover the entire cost of accidents. Cf. Lass and Zahn, *Einrichtung und Wirkung der deutschen Arbeiterversicherung*, 185 (1900).

¹ *Bulletin of the Bureau of Labor*, XXI. 750.

same time \$8,559,793 for injuries. In the words of the Commission, "From this table it is clear that on an average only 36.34 per cent of what employers pay in premiums for liability insurance is paid in the settlement of claims and suits. In other words for every \$100 paid out by employers for protection against liability to their injured workmen, less than \$37 is paid to those workmen; \$63 goes to pay the salaries of attorneys and claim agents whose business it is to defeat the claims of the injured, to the costs of soliciting business, to the costs of administration, and to profit."¹

Lawyers' fees on the side of the plaintiff further reduced the amount which the workmen actually received. In fifty-one cases investigated by the Commission, the size of the fee in 14 cases was less than 25 per cent; in 16 cases between 25 and 34.9 per cent; in 7 cases from 35 to 49.9 per cent; and in 14 cases over 50 per cent. In 151 accident cases investigated by the Labor Department of New York State, the total amount of plaintiffs' fees and costs amounted to 22.7 per cent of the total gross receipts from employers.²

Statistics of accidents show that the workman frequently gets nothing and that in a large proportion of cases the compensation paid is inadequate. In 114 cases of married men killed by accident in Erie County in 1907 and 1908, the total compensation paid by employers in 38, or one third of the cases, was nothing; in over three fourths of the closed cases the workman's survivors received less than \$500. Of 67 similar cases of married men killed in Manhattan Borough 81.2 per cent received less than \$500; over one fourth received nothing. Of 236 fatal cases of accident where the amount of compensation had been determined,

¹ *Report to the Legislature of the State of New York by the Commission appointed under Chapter 518 of the Laws of 1909 to Inquire into the Question of Employers' Liability and other Matters. First Report, 31, (March 19, 1910).* (Cited hereafter as *Report of the New York Commission*.)

² *Report of the New York Commission, 31.* In the 46 fatal cases, the average fee was 26.3 per cent of the gross receipts from employers. *Ib.* 30.

125, or over one half, received nothing more than funeral expenses.

The statistics of accidents reported on by the Labor Department of New York corroborate the conclusion that much of the loss is borne by the workingmen. Ten hundred and forty accidents were reported on. Of 902 cases involving temporary disability lasting from one week to over a year, 404, or 44 per cent, resulted in no compensation. In 304 cases the amount recovered was less than half of the money loss of wages and expenses. Seventy-one accidents resulted in permanent partial disability. In 18 of these nothing was paid, in 22 \$100 or less, in 14 between \$100 and \$500; 90 per cent of the closed cases received less than \$500. In nine out of ten accidents resulting in permanent complete disability the payment was less than \$500; one suit was still pending. Fifty-seven accidents were fatal; 35 out of the 49 closed cases, or 71.4 per cent, received less than \$500 compensation.¹

An attempt was made by the Commission to balance the losses suffered by the workingmen against all receipts from employers. In the 902 cases of temporary disability losses in wages and in medical expenses amounted to \$86,876.56. The receipts from employers equalled \$25,338.87, or 29.2 per cent of the total loss. For 61 cases of permanent partial disability, losses up to the return to work not including losses in earning power, were \$32,727.04 as against \$11,048.81 received from employers. Only 33.8 per cent of the losses as thus calculated were compensated. The ten cases of permanent complete disability where full information was obtained showed a loss of \$18,049.95, estimating the permanent loss in wages as equal to three times the yearly earnings. Only \$1,749.80, or 9.7 per cent of the loss, was received from the employer. For 53 fatal cases, including three-years' wage loss, losses of \$113,919.95 were offset by but \$25,960.53. Only 22.8 per cent of the losses were com-

¹ *Report of the New York Commission, 20-21.*

pensated by the employer. Estimates for 111 fatalities to married men investigated by the Commission, showed losses of \$299,901 which were offset by \$51,957, or 17.1 per cent, received from employers.

Other investigations arrive at similar results. Out of 355 fatal cases investigated by the Pittsburgh Survey, 57 per cent of the dependent families received nothing. Of 288 cases of injury, 56 per cent received no compensation.¹ Of 306 non-fatal cases, the reports of which were received by mail from the workmen by the Wisconsin Bureau of Labor and Industrial Statistics, only 91, or 29.7 per cent, received anything in addition to doctors' bills. Seventy-two, or 23.5 per cent, got nothing. In 131 non-fatal cases reported on by the factory inspectors, only 10, or 7.6 per cent, received anything in addition to doctors' bills, while 28, 21.4 per cent, received nothing. The remainder received part or all of the medical expenses. In 51 fatal cases, 32 out of 51 received less than \$500, 8 secured over \$1000.²

The conclusions to be drawn are clear. Under employers' liability the burden of accident cost placed upon the employer has gradually increased till now in states with laws imposing an average burden it equals roughly one third of the cost of adequate workmen's compensation. Only a small proportion of the premium paid by the employer actually reaches the injured employee or his family. The increase in cost incurred by transition to workmen's compensation could be materially reduced by elimination of the waste which characterizes employers' liability. A reduction in accident rates, hastened as in Germany by increasing the burden laid on the employer, would make the transition easier. Under these conditions the balance of social advantage seems to incline definitely toward the adoption of adequate workmen's compensation legislation.

¹ *Report of the New York Commission*, 24.

² *Ib.*, 24 et seq.

CHAPTER IV

INCIDENCE OF THE BURDEN OF ACCIDENT COST

Prior to a regular system of insurance, the burden of damages for negligence in accident cases rested with the employer and his business. Accidents and especially awards of damages were rare. The employer could not make allowance for them in his costs of production. They reduced his profits or swallowed up his accumulations. Awards for damages affected the individual employer and not the trade. The employer could not raise the prices of his goods or services to shift the cost to the consumer, nor could he reduce wages. The loss remained on the employer upon whom it originally fell.

After the enactment of liability laws, the employer as a rule sought to protect himself against unusual losses by taking out indemnity insurance in an accident liability company.¹ Being required to pay damages for injuries independent of personal or delegated negligence, he wished to equalize losses and escape the danger of ruin from a sudden disaster in his establishment. This is a risk to which ordinary insurance principles can be applied and the

¹ As a consequence of the legal enactments regulating employers' liability, different insurance associations were formed to meet the special liability thus imposed. Immediately following the enactment of the German Liability Law of 1871 the first accident liability insurance company was organized, the *Allgemeine Unfallversicherungsbank* of Leipzig. Following the employers' liability act of 1880 in England, insurance indemnity was offered by the new Employers' Liability Assurance Corporation of London. This company entered the United States in anticipation of the enactment of the Massachusetts Employers' Liability Act of 1887. Cf. *Haftpflichtversicherung*, in *Handwörterbuch*, 3d ed., V. 226. Also, *Liability and Compensation Insurance*, a series of lectures delivered before the Insurance Institute of Hartford, 5 (1913).

rates can be adjusted on the basis of experience to cover the amount of risk.

The substitution of liability insurance for the crude payment of the award makes it possible for the employer to reckon with the liability cost as one of his expenses of production. An attempt will be made to shift it to the purchaser in the shape of higher prices or to pass it on to someone else. It no longer can be considered simply as a reduction of profits. The legal theory that the employer pays the cost of compensation, assumed in the common argument that a compensation law is unconstitutional because it takes away the property of employers without due process of law, is not true economically from the time when an insurance premium takes the place of direct awards for damages. Here a complicated economic process begins to play its part, and the burden is distributed. Claims which are adjusted by the employer outside of his contract with the liability company and claims arising outside of the contract for which the employer is liable may, of course, still mean sometimes a reduction of profits.

In connection with the question of the incidence of accident cost, adjustments of wages may be discussed. It is always possible that an increase of the cost laid upon employers by employers' liability laws or by workmen's compensation may result in a decrease of wages paid to labor. As a converse proposition, it has often been argued that, in the absence of accident insurance cost levied on employers, wages are enough higher to correspond.¹ Where the absence of burden on employers makes conditions favorable to industry, employers, it is urged, can and will

¹ For example, H. Herkner, *Die öffentlichen Lasten der deutschen Industrie*, in *Preussische Jahrbücher*, CXLII. 341 (1910). "Man kann es, wie es in Nord-Amerika der Fall ist, den Arbeitern überlassen, selbst für ihre Versicherung zu sorgen und bei Unfällen Haftpflichtklagen gegen ihre Arbeitgeber anzustrengen. Unter diesen Voraussetzungen müssen die Arbeiter höhere Löhne beziehen. Dass sie tatsächlich in Amerika unverhältnismässig höher sind, ist zur Genüge bekannt."

pay more; where workmen have to insure themselves, they demand more in wages. It is argued that wages in dangerous trades are adjusted to the degrees of risk. The implication is that the employer does actually bear the entire burden of accident insurance under present conditions, because of the ability of the worker to force upon the employer in increased wages the cost of accident insurance, or through the action of economic forces of which both employer and employee are ignorant. If the wages are adjusted in this way, the laborer is held to be entirely responsible for the failure to take out insurance.

The question to be examined is a question not of the general level of wages, but of differences of wages in different occupations. Legal theory, in a sort of judge-made economics, assumed that wages would be adjusted in the wage contract according to the degree of risk. The workman was assumed to be entirely rational, as the "economic man" of the classical economists, possessed of competent knowledge, and with ability and power of bargaining sufficient to insist on such an adjustment. This is expressed in the words of Chief Justice Shaw in his decision in the leading case of *Farwell vs. Boston and Worcester*:¹.

The general rule resulting from considerations as well of justice as of policy, is that he who engages in the employment of another for the performance of specified duties and services for compensation, takes upon himself the natural and ordinary risks and perils incident to the performance of such services, and, in a legal presumption, the compensation is adjusted accordingly.²

Is there any basis in fact for this presumption?

The cause of persisting differences in wages in any particular labor market lies in the action and inaction, prefer-

¹ 4 Met. 49.

² For a discussion of legal theory from the economic standpoint, cf. *Industrial Accidents and Employers' Responsibility for Their Compensation*, in *Seventeenth Annual Report of the Bureau of Labor Statistics of the State of New York for the Year 1899*, Part II, 648 et seq., 673 et seq.

ences and dislikes, and differences in the ability of labor. If a higher wage is paid in a dangerous industry for labor of a given degree of skill than in a relatively safe occupation, it is paid not because the employer is able to pay more but essentially because the employee demands more. If the laborer does not avoid the occupation, but is willing to work there for the same wage as he gets elsewhere, the employer in a dangerous occupation simply calculates his costs on that basis. His business is adjusted to the cost of labor. The dangerous nature of the industry would not of itself render it so profitable that it would without pressure on the part of labor give it a higher wage. It follows that a theory that wages are adjusted in proportion to the risk must explain why a higher degree of risk causes labor to demand and enables labor to secure a higher wage. Whether or not differences in wages will persist after workmen's compensation is introduced, whether accident compensation will cause a reduction of wages in risky trades, will depend on whether these causes are affected.

An adjustment of wages to the degree of risk might be caused: (1) by the inclusion in the standard of living of all workmen of an item of accident insurance, or (2) by the avoidance of dangerous occupations by labor, together with the insistence upon higher pay to compensate for the degree of risk by those who remain in them.

If all workmen included in their standard of living¹ provision for accident insurance, there would result an adjustment of wages according to the risk. The cost of insurance would vary with the degree of danger. Workmen would have an accurate measure of the degree of

¹ The "standard of living" as used here is conceived to have an effect on wages not through an ultimate or remote change in the supply of labor but through its effect upon the laborer's conception of a "fair wage" or a "decent wage," a concept which is of considerable importance in determining what wages unionized labor (and to a less degree non-union labor) demands and with what energy and solidarity workmen press their demands.

danger in that cost. Having thus a definite knowledge of the cost, an adjustment could be effected through an insistence on a higher rate of remuneration for the extra risk.

There is, however, no general accident provision made by all workmen. Accident insurance is not now part of the standard of living of the working class. There can therefore be no general adjustment of wages to risk on this basis.

If, in any special occupation, accident insurance becomes part of a minimum standard of living, and it is insisted upon by all the workers in the trade, it may be possible to secure higher wages to compensate for risk. Resistance will be offered to a decrease of remuneration which cuts into the standard, and there will be coöperation among workmen to enforce it. But only if the inclusion of insurance is generally a part of the standard will there be this psychological force tending to join the entire body of workers together in coöperative action. Where the employees of railroads, for example, pay definite sums each year into the treasuries of the railroad brotherhoods, there is an adequate basis for the theory that wages in that employment are adjusted so as to permit of general accident insurance among the employees.

The second possible theoretical basis of the proposition that extra compensation is paid for extra risk is that labor avoids dangerous occupations or insists on higher pay. In other words, at the same wages for equal degrees of skill labor shuns the dangerous and flocks to the safe industries; only with an increased offer of wages will there be an adequate supply of labor attracted to the dangerous trade.

On this hypothesis the compensatory adjustment of wages will not necessarily be in proportion to the cost of accident insurance. It will take place on the basis of an indefinite "avoidance" of the trade by workmen. The dangers of an occupation will be merged in with the other characteristics which influence labor to prefer or to shun

the industry. Whether under this theory wages would increase by the full amount of the cost of accident insurance to cover the risk, by only a part of it, or by many times the cost, would be impossible of prediction and would depend on the psychological effect on the workmen of the knowledge of the presence of danger.

Adam Smith thought that hazard of a trade was in general underestimated, especially in that period of life when the choice of occupation was made, but he did not compare it specifically to the cost of accident insurance.¹ Mill suggested that wages in the most disagreeable occupations might, in times of an overabundant supply of labor, be paid worst of all, because no one who could get any other job would accept employment in it and those who had no other alternative would be glad to accept anything they could get.² Roscher believed that the extra wage paid for extra risk was not enough on the average to pay for accident insurance.³

Labor may be relatively scarce in a dangerous trade because of reluctance to enter the trade, because of a large flow of men away from it on learning of or realizing its danger, or because of a heavy accident or general mortality.

The essential difficulty with the theory of wage adjustment lies in the inadequacy of popular knowledge of the degree of risk. Avoidance of dangerous trades and an estimation of compensation can occur only if the character of the industry or the degree of risk is known. An unknown element cannot be accounted for in the psychology of the

¹ *An Inquiry into the Nature and Causes of the Wealth of Nations*, edited by Edwin Cannan, I. 110-2 (1904).

² *Principles of Political Economy with some of their Applications to Social Philosophy*. I. 475 (ed. 1864).

³ *System der Volkswirtschaft. Die Grundlagen der Nationalökonomie*, 300 (1854). "Uebrigens pflegt der Mehrlohn der gefährlichen Arbeitszweige noch nicht einmal zu einer vollen Assecuranzprämie auszureichen."

workman when he makes his contract. Statistics of deaths and minor injuries have been and are far from perfect, especially in this country. The average workman has no first-hand knowledge of the statistics, but merely a general acquaintance with the conditions of work. And his familiarity with the conditions of danger is more apt to make him less apprehensive and to breed contempt for the risk than to move him either to avoid the occupation or to demand more wages. If workmen are ignorant of conditions in a dangerous industry, or if they disregard the hazard, there will be no tendency to avoid it.

If there is no tendency to avoid entering the occupation, then in occupations where there are no barriers, such as labor-union rules or the prerequisite of a certain degree of skill, to the ingress of new labor, other factors tending to reduce the labor supply can have little effect. A high accident or general mortality rate in an occupation will not affect the supply of labor, if men enter it freely. Men learning of danger may leave the trade quickly; but if others ignorant of danger are always waiting to take their places, only the permanence of the labor force, not wages, will be affected. In case of industrial diseases, familiarity with and dread of the results might cause men to be continually leaving the trade. The effects of lead poisoning are soon learned by new-comers to the lead industries, and the character of the industry seems to affect the permanence of the labor force.¹

The case is quite otherwise where there is popular knowledge of the degree of risk. Sometimes danger is so obvious that physical bravery is required. Rescue work in a mine, in which an explosion had just occurred, would not be

¹ "The men employed in this industry are for the most part of foreign birth, with a varying proportion of American born, who usually hold the more highly skilled positions. The work is for the most part unskilled or at the most semi-skilled. It is a shifting class of labor everywhere. . . ." *Lead Poisoning in the Smelting and Refining of Lead*, in *Bulletin of the U. S. Bureau of Labor Statistics*, No. 141, 11.

undertaken for mere pay without a high extra compensation. Timid souls shrink from such work. Brave men volunteer without thought of pay. In this case danger is evident and must be faced at once. The name of the occupation may be suggestive of danger to the most impervious brain. Powder mills suggest to the least imaginative the possibility of an explosion. An extra wage may have to be offered in such occupations to secure an adequate labor supply. Reckless men who care not if an accident occurs or men who have faith in their own good fortune may scoff at or disregard the chance of accident.

For the rest, danger exercises little or no influence upon choice of occupation or on the demands of labor. A man's occupation is often decided by the opportunities which are open to him. Coal mining and seafaring are among the most dangerous trades. Men who have grown up in a seaport town are apt to minimize the danger of seafaring. In a mining town, mining may be the only occupation open. Not only is there no accurate knowledge of the degree of risk, but there is no common action on the part of labor either in avoiding the industry or in demanding higher pay.

Among skilled and unionized workmen, where there are barriers to the entrance of men to the trade, the conditions of extra compensation for extra risk are somewhat modified. If there are effective restrictions on the number of men permitted to enter the trade, an avoidance of the occupation on account of danger would affect not wages but the character of the personnel. The supply of labor would be limited to the number allowed under the restrictive conditions: higher wages would be paid, not on account of the risk of accident, but because of the control of the labor supply. Where the trade is not fully unionized or where restrictive action is not taken or is not effective, a high degree of danger may affect wages—if the labor supply is short on account of risk. If knowledge that the industry is dangerous and fear of danger are associated with skill

and intelligence, more adjustment of wages to risk could be expected in skilled than in unskilled trades. But courage is usually greater among the more intelligent officers of an army than in the rank and file; besides, with intelligence is apt to go the knowledge of how to prevent or avoid accidents. A high degree of danger may affect the wage rate by inducing labor to act together in a more determined manner to secure extra compensation. If all the men make provision for accident insurance, extra compensation may be demanded and obtained. If the average workman does not have sufficient realization of danger to take out an accident policy, there is little likelihood that the degree of danger would have any influence on the wage rate.

Statistical evidence on the adjustment of wages to the risk of accident is meagre and unsatisfactory. The usual method of proof is to show or to state that the wages paid in dangerous trades are low. Adna F. Weber, for example, states:

This legal fiction, however, has no basis in fact; railroad trainmen, for instance, obtain no more than the wages of ordinary laborers, although one out of every eleven of them is severely injured every year. Sailors, miners, quarrymen and other workmen in extra-hazardous trades are paid no more than laborers in other occupations excepting where the matter of skill enters into the question.¹

The absence of data as to wages and the degree of risk is not reassuring. According to English figures—there are no satisfactory American data as to occupational mortality—the comparative mortality from accident for railway trainmen was 115 (for all railway employees, including engineers and stokers, 101), as compared to an accident rate for “general laborers” of 120.² A comparison of wages

¹ *Employers' Liability and Accident Insurance*, in *Political Science Quarterly*, XVII. 258-9 (1902).

² Figures taken from *Supplement to the Sixty-Fifth Annual Report of the Registrar General*, Cd. 2619, Part II. cxci. Cf. comment, xvii. These remarks would apply more to the general mortality conditions than to the accident rate.

in one dangerous occupation with those in an occupation equally hazardous proves nothing as to adjustment of wages to the degree of risk.

Rubinow contends that it is inadmissible to conclude from the high wages paid in structural iron-working that an extra amount is paid for the high risk, because the high pay can be adequately accounted for on the basis of greater skill required.¹ Low pay in coal mining, for unskilled labor in the iron and steel industry, for loading and unloading, is quite as adequately explained by the low degree of skill. To draw the conclusion that there is no compensation for risk because there is a large number of occupations of extremely high risk and extremely low pay is equally inadmissible. Evidence showing that there are more unskilled trades than skilled in which the hazard is great is irrelevant to the question.

The New York Commission on Employers' Liability ascertained some facts relating to the average wage received by persons killed or injured in accidents. The average pay in 224 fatal cases investigated by the Commission was \$15.64; 24.1 per cent received less and 75.9 per cent more than twelve dollars a week.² Among the 1399 cases of injury of men investigated by the Labor Department, 928, or 66.0 per cent, earned less than \$15 a week, and nearly one half less than \$12 a week. These data have little significance till compared with average wages. For the wages

¹ "It has never been statistically established that there is any correspondence between the comparative risk of an occupation and its remuneration, such as there undoubtedly is between remuneration and skill. And if in a few dangerous occupations fairly high wages are given, it is usually found to be dependent rather upon the skill than upon the risk incurred (such as in structural iron-working). On the contrary, there are a very large number of occupations of extremely high risk and extremely low pay, such as coal-mining, unskilled labor in the iron and steel industry, loading and unloading." Rubinow, *Social Insurance*, 100.

² *Report of the New York Commission*, First Report, 91.

of persons injured a comparison is made with census figures for the wages of 430,475 employees in 1905.¹ In this aggregate the median wage for men falls between \$10.00 and \$12.00 per week. The median wage in the group of men injured falls in the wage class \$12.00 to \$15.00 per week. The median wage of 81 females injured fell in the same class as in the report of the Bureau of the Census, between \$6.00 and \$7.00 per week.² The average wage paid to men in New York in 1900 was \$558.09.³ Figures for 1910 are not given for men separately. Making all allowance for an increase in wages, the average wage received by the men killed by accident was considerably higher than the general average. This does not mean that there is any adjustment of wages to risk, but tends to show merely that accidents are slightly more frequent among the higher-paid men.⁴

An investigation of wages and accidents in the paper box industry in New York bears upon this question of extra compensation for extra risk. The accident frequency in the different processes of the industry varies considerably. The frequency of accident was compared to the wages paid in these processes and the conclusion was reached that "certain machines are inherently hazardous and yet

¹ Bureau of the Census, *Bulletin* 93, 150.

² *Report of New York Commission*, First Report, 213.

³ Twelfth Census, VII. *Manufactures*, Part I. cxv.

⁴ The analysis of the report points out that the difference in the wage group in which the median fell might not mean very much of a difference in wages in the case of 1399 men injured. Also, "There was possibly some general tendency toward higher wages in employees' reports than in employers'." Dr. Devine in commenting on the results of the inquiry of Mr. McLean said, mentioning that 56 per cent were earning less than \$15 a week, "Now I submit that that has a bearing on the question of whether wages are fixed in such a way as to cover the risk of injury from accident." *Report of New York Commission*, 25, 27. Even Mr. Rubinow quotes these data, which "seem to give substantial evidence in support of this contention" [that wages are not adjusted to the degree of risk]. *Social Insurance*, 100.

no compensatory consideration enters into the wages, unless a higher degree of skill demands it." The evidence leaves much to be desired in the way of conclusiveness.

Yet a comparison of hazardous with non-hazardous processes for the trade as a whole, shows that the median wage for women in hazardous and non-hazardous occupation is identical, lying somewhere between \$6 and \$6.49. In the case of men the median wage for hazardous occupations is \$12 to \$12.99 as against \$9 to \$9.99 in non-hazardous. This difference is largely explained by the fact that the non-hazardous processes in which they are engaged are not peculiarly men's jobs—most of this kind of work being done by women—whereas the hazardous occupations consist very largely of cutting, a decidedly skilled branch in the work.¹

Light could be thrown on the question by examining the effect on wages of a change in the rate of accident.

The most familiar example of the reduced number of accidents following the introduction of proper safeguards is found in the railways of this country since the enactment, in 1893, of the federal law compelling the use of automatic couplers; in five years the number of railway employees killed from the coupling and uncoupling of cars was reduced one-half and the number injured also virtually reduced one-half.²

Here surely we should find a trace of the influence of the reduction of the rate of accident on wages, if there is any such effect. The trend of the wages of railway brakemen, as the class of employees most likely to be affected by the decrease in the number of accidents, is given in Table I.

An examination of the table of the course of brakemen's wages in different states shows in five cases a slight decline after 1893; in one of these, Indiana, it was immediately made up again; in two cases there was an increase; and in

¹ Marie S. Orenstein, *Report on a Hundred Accidents in the Paper Box Industry of Greater New York*, in *Fourth Report of New York State Factory Investigating Commission*, II. 299.

² *Seventeenth Report of New York Bureau of Labor Statistics*, Part II. 559 (1889).

TABLE I
WAGES OF BRAKEMEN¹

Year	Number of Employees	Wages	Year	Number of Employees	Wages
	Massachusetts			Maryland	
1889	108	\$1.86	1892	520	\$1.94
1890	41	1.83	1897	829	1.90
1891	82	1.93		Michigan	
1892	84	1.93	1893	457	1.73
1899	2245	1.87	1897	25	1.70
1900	2279	1.87		Nebraska	
	Indiana		1893	457	1.86
1888	3834	1.79	1898	284	1.92
1889	4917	1.87		Kansas	
1890	5454	1.98	1888	1057	1.79
1891	6846	2.05	1893	339	1.92
1892	8125	2.14	1898	891	2.11
1893	7909	2.16		Pennsylvania	
1894	6393	2.15	1887	4917	1.79
1895	5450	2.19	1899	2729	1.79
1896	5735	2.18	1900	2685	1.84
1898	5563	2.16		New Jersey	
	Montana		1887	1212	1.79
1893	19	2.40	1896	426	1.79
1895	178	2.11			
1896	230	2.04			
1897	233	2.04			

¹A *Compilation of Wages in Commercial Countries from Official Sources*, in *Fifteenth Annual Report of the Commissioner of Labor*, I. 165-6 (1900).

TABLE II
TREND OF WAGES IN INDUSTRY, 1890-1900¹

1890	100.4	1896	99.9
1891	100.2	1897	99.6
1892	100.7	1898	100.1
1893	100.9	1899	101.8
1894	98.0	1900	105.4
1895	98.4		

¹ *Wages and Hours of Labor*, in *Nineteenth Annual Report of the Commissioner of Labor*, 23 (1904).

three a stationary condition of wages. Wages in industry during this period, 1893-1898, fell slightly. The depression in business conditions in 1893-1896 would be of itself an adequate explanation of a decline in brakemen's wages. There is here no sufficient evidence of an adjustment of brakemen's wages to the degree of danger or to the cost of accident insurance.

The correlation of wages paid and the degree of risk might throw light on the question of extra pay for extra risk. The results of two trials are given. There are no satisfactory American data of occupational accident or general mortality, because we have no adequate occupational statistics either of deaths or of the general population. Accordingly, English material has been used. The accident mortality in 1890-1892 is correlated with the wages paid in different occupations in 1885. One series of 27 industries gives a considerable negative correlation: the greater the degree of risk the less the wage. The second series of 42 industries gives a slightly larger positive correlation. In the former the weekly wages paid to men are used as the basis of comparison, in the latter the average annual earnings per employee. Only those occupations were selected to which a fitting accident rate could be applied.¹

Such a correlation can be made only on the assumption that differences in wages due to other causes than to the degree of risk will offset each other if a large enough number of cases is taken. The results of the investigations show that in the selection of occupations differences in wages due to skill, etc., are not eliminated. In the first series a nega-

¹ The statistics of wages are taken from the *General Report on the Wages of the Manual Labour Classes in the United Kingdom; with Tables of the Average Rates of Wages and Hours of Labour of Persons Employed in Several of the Principal Trades in 1886 and 1891*, C. 6889, 470, 477-80 (1893-4). The statistics of accident mortality by occupations are from the *Supplement to the Sixty-fifth Annual Report of the Registrar-General of Births, Deaths and Marriages in England and Wales*, Part II, Cd. 2619, cxc and clviii et seq. Table IV (Figures of 1890-1-2).

TABLE III
CORRELATION OF ACCIDENT MORTALITY AND WAGES

Group	Number of Industries	Average Accident Mortality	Average Normal Wage (per week) Paid to Men	
			s.	d.
I	4	125.0	22	2.5
II	4	60.2	23	6.2
III	7	40.3	25	9.3
IV	8	24.4	25	9.9
V	4	16.0	23	0.0

$$r = -.254$$

Group	Number of Industries	Average Accident Mortality	Average Annual Earnings per Head
			£
I	6	14.0	42.0
II	7	23.0	43.4
III	11	33.3	49.5
IV	10	50.6	55.7
V	8	112.0	59.8

$$r = +.338$$

tive correlation was reached simply because industries with a high accident rate were predominantly unskilled. In the second series, the skilled industries showed on the whole the higher accident rates. Though, theoretically, it might be possible to draw a conclusion by this method, if in each degree of skill wages in two industries with different degrees of hazard could be compared, yet practically no conclusion can be drawn from a general correlation because the assumption that differences of skill will offset each other is not well founded.

A statistical answer to the question is not possible from the existing statistical material. We know accident mortality only for a comparatively few trades. Differences of accident mortality in different processes in the same trade have scarcely been studied statistically. Differences of

average wages in different industries may be largely affected by the proportion of skilled to unskilled labor in them. Comparison of wages in different trades is inconclusive because of the manifold causes of variation. Correlation of variations in accident rates with changes of wages is inconclusive because of the preponderating influence of other causes. The chief difficulty in such an investigation is the insignificance of the differences in accident mortality as an influence affecting wages. Other causes are more important. The cost of accident insurance is a very small sum per year: 3 per cent of the wages would pay for an adequate compensation in most dangerous occupations.¹ Differences in accident risk, if adequately compensated, would require in case of a weekly wage of \$12.00 a difference of from nothing to 36 cents per week; but wages for men vary from \$7.00 and less to \$25.00 and more, due to differences in skill, ability, etc. To look for statistical proof of a tendency to extra pay for the incurring of extra risk is to search for a needle in a haystack.

The question might fairly be raised why there should be so much discussion about adjustment of wages to the degree of risk and practically none about adjustment of wages to occupational mortality.² The death rate from accident is but a single factor in the occupational death rate. A high death rate from accident does not always mean a high general mortality for the occupation. Coal mining ranks among the most dangerous trades, but its

¹ Three per cent of the wages covers the cost of accident compensation in the German coal mining industry. The total expenditure of the *Knappschafts Berufsgenossenschaft* in 1911 for accident compensation was 34,865,000 marks; the total wages paid were 1,169,793,000 marks. Cf. *Amliche Nachrichten*, XXIX. No. 1, 18-19; 42-43. (Jan. 10, 1913).

² Walker suggests that to estimate real wages from nominal wages account must be taken of the risks of accident and of differences in mortality and length of life in different occupations. *The Wages Question, a Treatise on Wages and the Wages Class*, 33, 36 (1891).

occupational mortality is considerably below the average, on account of the very low death rate from tuberculosis. The comparative mortality from accident of 123 is combined with a general mortality figure of 846. The accident mortality among inn and hotel servants is 53, but the general mortality is 1767. Comparative figures of accident and general mortality in a few occupations are given in Table IV.

If in the wage bargain workmen were so intelligent and so alive to their own interests as really to insist on getting extra pay in proportion to the extra risk of accident, why should they be totally indifferent to the much more important question of the occupational mortality from all causes? The reason that discussion has centered around the question of compensation for extra risk from accident rather than for extra risks from general mortality is simply that the former was an issue in the debate on the justice of assessing the cost of accidents on employers. As a defense it was asserted without proof that wages were adjusted to degree of danger. The question has only recently been raised whether the employer should not also be made liable for sickness and old-age pensions, on the ground that the occupation affects the sickness rate and the age of superannuation; but it has not yet been seriously proposed to levy upon employers in proportion to the occupational death rate. Even if it is urged that occupational conditions are a chief cause of premature death or superannuation, as a ground for assessing employers and to establish the justice of such assessment, it will probably never be seriously asserted as a counter-argument that wages are adjusted to a high occupational mortality, or to an early age of superannuation. In view of the general lack of popular knowledge on these questions, to say nothing of the incompleteness and lack of knowledge on the part of experts, it can scarcely be maintained that occupational mortality or superannuation exercise any important influence upon the choice of occupation.

TABLE IV

COMPARATIVE MORTALITY BY OCCUPATIONS FROM ALL CAUSES AND FROM ACCIDENT¹

Occupation	Accident	All Causes
Seaman, etc., Merchant Service.....	266	1547
Fisherman.....	128	892
Coal Miner.....	123	846
Carman, Carrier.....	121	1094
General Laborer.....	120	1987
Ironstone Miner.....	117	723
Railway Guard, Porter, Pointsman, etc.....	115	773
Dock Laborer, Wharf Laborer.....	106	1374
Slater, Tiler.....	99	1036
Stone, Slate, Quarrier.....	99	905
Coal Heaver.....	88	1144
Costermonger, Hawker, etc.....	83	1778
All Occupied Males.....	58	925
Wool, Worsted, Manufacturer.....	23	927
Tobacconist, etc.....	22	898
Stationery Manufacturer; Stationer, Publisher, News Agent.....	22	872
Gardener, Nurseryman, Seedsman.....	22	527
Shoemaker.....	21	901
Printer.....	20	935
Law Clerk.....	20	880
Schoolmaster, Teacher.....	17	599
Grocer, etc.....	17	670
Gunsmith.....	17	1087
Zinc Manufacturer, Worker.....	15	889
Cycle and Motor Manufacturer.....	14	762
Artist, Engraver, Sculptor, Architect.....	13	760
Bookbinder.....	13	889
Silk, Satin, Crepe, etc., Manufacturer.....	11	892
Clergyman, Priest, Minister.....	9	515

¹ The figures are from *Supplement to the Sixty-fifth Annual Report of the Registrar-General*, Part II. Cd. 2619, cxc, clviii et seq., Table IV. The numbers represent the number of deaths from accident and from all causes that would occur in a standard male population 25-65 years of age, distributed in ten-year age groups between these

limits in the age distribution of the general male population of those ages, so chosen that 1,000 deaths would result at the general rates prevailing at each age group, if the rates for accident and for all causes at each ten-year age period in the occupation in question were applied to the standard population. Cf. *ib.* xi and xii. The occupational mortality figure is not always a sure index of mortality incident upon and connected with the occupation. A low mortality rate may indicate simply that only selected healthy individuals remain in the trade; a low figure may mean that many of less than average vitality are forced into the occupation. See comment, *ib.* xvii. Such selection would have little influence upon comparative accident mortality figures.

CHAPTER V

AMOUNT AND WEIGHT OF THE BURDEN OF SOCIAL INSURANCE IN GERMANY

Before proceeding to an analysis of the economic effects of social insurance upon industry, capital, wages, and profits, it will lend definiteness to the problem to consider the amount and weight of the burden of social insurance where it has already been introduced. Germany is chosen as the best country in which to study the industrial effects and to estimate the weight of the burden, because in Germany social insurance has been established for nearly thirty years and its effects, if it has any, should there be most clearly traceable. Social insurance, furthermore, is better developed in Germany, and employers are heavily assessed to meet part of the cost.

A large proportion of the total population and practically all the working population are included in the scope of insurance. Among a total population of 64,551,000 in 1910, 13,954,973, or 21.6 per cent, were insured against sickness; 24,154,000, or 37.4 per cent, against accident; and 15,659,700, or 24.3 per cent, against invalidity and old age. Taking into account only the "occupied working population" (*erwerbstätige Arbeiterbevölkerung*), including servants, there were 82.4 per cent insured (1909) against sickness, 148.0 per cent against accident, and 95.2 per cent against old age and invalidity.¹

The total amount expended from 1885 to 1910, including the cost of administration was, in sickness insurance, 4,617,-

¹ Manes, *Sozialversicherung* (*Reichsversicherung, Angestelltenversicherung, Arbeitslosenversicherung*), 63. Those insured against accident include a large part of the agricultural population which is not included in the "erwerbstätige Arbeiterbevölkerung."

039,972 marks; in accident insurance, 2,174,186,549 marks; and in invalidity insurance, 2,295,341,423 marks. In the year 1910 the total sums expended were 379,410,138 marks for sickness, 206,223,179 marks for accident and 218,945,258 marks for invalidity insurance. Almost all of this represents benefits received by wage earners,—357,000,000 marks in sickness, 164,000,000 in accident, and 197,000,000 in invalidity benefits. A total yearly sum of nearly \$180,000,000 is thus devoted to the welfare of sick, injured, and infirm members of the working class.¹

How much does this mean to the individuals benefited? Sickness benefits include, as a minimum, free medical attendance and sick pay equal to one half of the local wages of common day labor, payable for a maximum period of 26 weeks from the fourth day of sickness, with hospital treatment as an alternative. The scale of benefits varies with the local fund. Maternity benefits equal to sick pay for a period of eight weeks, a funeral benefit of twenty times the amount of the basal daily wage, a family benefit in case of sickness of members of the family of an insured workingman, and other benefits, may be granted.²

In 1910 there were 5,705,429 cases of sickness involving inability to work, with 113,459,544 days of sickness; the cost per case amounted to 62.65 marks (\$15.66); or 3.15 marks (78 cents) per day. Per 100 persons insured, 40.88 cases of sickness occurred in 1910, lasting 813.04 days, an average of eight days of sickness per insured workman per year.³

Accident benefits commence after the first thirteen weeks of sickness due to injury have passed. In this initial period the cost is met mainly by the sickness funds. Beginning with the fifth week the sum which an injured person receives is equal to two thirds of the wages adopted for calculating benefits. An employee totally disabled receives a pension

¹ Manes, *Sozialversicherung*, 66-68.

² Dawson, *Social Insurance*, 50 et seq.

³ Manes, *Sozialversicherung*, 69, 72-3.

equal to two thirds of his yearly earnings; in case of partial disability, proportionately less. Above \$450 only one third of the wages is counted in determining the yearly earnings. In case of complete helplessness, the pension may be increased to the full yearly wages. Funeral money equal to one fifteenth of the yearly earnings, with a minimum of \$12.50 (50 marks) is paid in case of death; the widow and orphan children each receive a pension equal to one fifth of the yearly earnings of the deceased, but not exceeding altogether 60 per cent. The benefits under the accident insurance law are the most liberal.¹

The average benefit per person injured and entitled to benefit amounted in 1910 to 160.51 marks (\$40.13). The number of new accident pensioners added during the year was 132,064 and the total number of pensioners was 1,017,570. The accident frequency, or the ratio of the number of new cases of persons injured and granted pensions to the total protected, varied from 2.4 per 1000 under 16 years to 14.2 per 1000 for ages 60 to 70 in industry, construction, and seafaring (1897), and from 2.5 to 10.3 per 1000 for the same age groups in agriculture and forestry (1901).²

The invalidity insurance law gives pensions to persons over 70 who have made a certain minimum number of contributions each year for thirty years, with liberal transition conditions for those over 40 years of age at the time the insurance went into effect. The old-age pensions vary from \$27.50 to \$57.50, depending on the wage class of the contributions paid. Persons who have paid contributions for a minimum of 500 weeks (200 weeks if the contributions are compulsory), and who become invalids, receive invalidity pensions depending on the amount of contributions made.³ Some minor benefits are also allowed. Under the new law

¹ Cf. Dawson, *Social Insurance*, 111 et seq.

² Cf. Manes, *Sozialversicherung*, 69-73.

³ Dawson, *Social Insurance*, 138 et seq., 145. Cf. Kaskel-Sitzler, *Grundriss des sozialen Versicherungsrechts*, 182 et seq.

of 1911 invalid widows and orphan children under 15 of insured workmen are given a small pension. One or two minor benefits are also allowed.

The average value of invalidity pensions newly granted was in 1910, 176.93 marks (\$44.48).¹ The total number of invalidity pensioners in 1910, at the beginning of the year, was 893,585, to which 114,679 new pensions were added; old-age pensions numbered 102,362 on January 1, 1910, and 11,612 new ones were added in the course of the year.² New sick pensions to the number of 12,263 were granted in 1910; 18,502 were current at the beginning of the year. New invalid pensions were created in 1910 at the rate of 732 per 100,000 insured, for old age pensions the rate was 74 per 100,000, and for sick pensions 78 per 100,000.³

The total sums contributed by employers, workmen, and the State are shown in the following table.⁴

The legal division of the cost varies with the kind of insurance. Contributions to sickness insurance are made

TABLE I
COST OF GERMAN SOCIAL INSURANCE, WITH SOURCE OF INCOME,
1885-1910

	Contributions of Insured	Contributions of Employers	State Subsidy
	1885-1910 (In millions of marks)	1885-1910 (In millions of marks)	1891-1910 (In millions of marks)
Sickness insurance	3,266.5	1,481.2	
Accident insurance		2,395.0	
Invalidity insurance	369.8	369.8	639.8
Total	3,636.3	4,246.0	639.8

¹ Manes, *Sozialversicherung*, 70.

² *Ämtliche Nachrichten*, XXVII. 300 (February 1, 1911).

³ Manes, *Sozialversicherung*, 73.

⁴ From tables, ib. 66-68.

by employer and employee, the former paying one third and the latter two thirds. Premiums are assessed according to the wage class in which the insured person belongs; the amount of the premium may not exceed a maximum percentage of the wages; the rate of assessment varies for different funds, for different average wages, with average state of health, and especially with the scale of benefits granted.

The cost of invalidity and old-age insurance is met by the employer and employee, each paying an equal share. The State contributes in addition the sum of fifty marks per year to each pension. The cost of accident insurance varies with the degree of danger of the industry, each trade having its own accident fund, the cost being assessed on the mutual principle. It is borne entirely by the employer.

W. H. Dawson estimates that an average contribution for sickness insurance is 3.5 per cent of the wage. Of this the employer pays one third, or 1.17 per cent of the wage. Contributions to invalidity insurance prior to the changes introduced in 1911 constituted between .5 per cent and 1.5 per cent of the wages, depending on the ratio of the fixed premium for each wage class to the actual wage received. The ratio is somewhat higher in the case of unskilled or low-paid labor, perhaps from .75 to 1.5 per cent, while for skilled labor the ratio may be as low as .5 per cent. Under the new law giving pensions to survivors, the cost will be somewhat increased. The average cost of accident insurance for industries of all kinds in 1909 was equal to about 1.72 per cent of wages paid. For the mining industry in that year it was 2.94 per cent.¹

That part of the total cost of social insurance for workingmen which falls upon the employer varies between 2 and 5.5 per cent of his wage costs, with an average of perhaps 4 per cent. It is obvious that this percentage of wages will

¹ Dawson, *Social Insurance*, 209-214.

not constitute the same amount of burden in all industries; the relation of wages to other costs is of essential importance.

TABLE II

INSURANCE CHARGES UPON EMPLOYERS STATED AS PER CENTS OF WAGES¹

Industry	Sickness	Accident	Invalidity	Together
Steel.....	1.04	1.76	0.60	3.4
Iron and steel.....				3.7
Locomotives and wagons..				4.2
Locomotives.....				3.7
Machine tools.....				4.0
Machinery.....	0.9	2.2	0.6	3.7
Ditto.....	1.1	1.1	0.8	3.1
Ditto.....				3.5
Electrical engineering....				2.6
Ditto.....	1.1	0.7	0.6	2.4
Automobiles.....				2.6
Shipbuilding.....	0.9	2.4	0.7	4.0
Coal mining.....				5.4
Ditto.....		2.6		8.2
Chemicals.....				2.9
Ditto.....				3.0
Ditto.....				4.0
Glass.....	1.9	2.5	0.7	5.1
Paper.....				4.0
Cotton spinning and weav- ing.....				4.0
Cotton spinning.....	1.0	0.5	0.7	2.2
Average.....	1.13	1.72	0.67	3.8

¹ Dawson, *Social Insurance*, 214. Figures are for leading industrial firms gathered from inquiry in 1911.

Figures showing the cost per workman per year are given for a few industries by Dawson. In 1907 the Krupp works paid approximately 62 marks per employee, apart from the

large contributions made to its own pension and benefit funds. Other cases are shown in Table III.¹

TABLE III
ANNUAL COST OF INSURANCE PER EMPLOYEE

Firm	Annual Contribution per Employee
Nuremberg-Augsburg Machine Works.....	(nearly) 37 marks
Vulcan Shipbuilding Co.....	48
Kölner Bergwerksverein of Altessen.....	121
Bergbaugesellschaft Neuessen of Altessen.....	123

The association of Colliery and Smelting Works Owners of Upper Silesia reported (in 1911) a cost per man for the year 1909 of 149.40 marks, of which accident insurance took 35.37, sickness, 98.29, and invalidity, 15.04.² This is much higher than for most industries, amounting as it does to 12 per cent of the wages bill.

The sums paid have tended to increase as the benefits have been extended and as the wages have risen. Figures for the Rheinische Stahl Industrie illustrate this tendency; and figures for the Harburg India Rubber Company, which employs largely unskilled labor, indicate that the cost has not increased to the same extent for lower paid workers.

¹ Cf. Dawson, *Social Insurance*, 214-217.

² The error is Dawson's, who gives the sums in pounds sterling; the figures above are expressed in marks at the rate of 20 marks to a pound.

TABLE IV

COMPARATIVE STATEMENT OF CONTRIBUTIONS PAID ON ACCOUNT OF THE
THREE SYSTEMS OF INSURANCE BY THE RHEINISCH STAHL INDUSTRIE
OF REMSCHEID¹

Year	Sickness	Accident	Invalidity	Together	
				Per Head	Per Cent of Wages
	(Marks)	(Marks)	(Marks)	(Marks)	(Marks)
1885 ²	8.70			8.70	0.81
1886 ³	8.75	4.65		13.40	1.22
1891 ⁴	9.23	13.11	8.59	30.93	2.55
1895	9.62	13.55	8.50	31.67	2.61
1900	10.10	13.05	8.50	31.65	2.21
1905	10.28	28.41	8.23	46.92	3.08
1906	15.40 ⁵	25.19	8.91	49.50	3.15
1907	12.87	25.28	10.02	48.17	2.91
1908	17.03 ⁵	28.69	9.77	55.49	3.39

¹ Dawson, *Social Insurance*, 218.

² Introduction of sickness insurance.

³ Introduction of accident insurance.

⁴ Introduction of infirmity insurance.

⁵ Including special contributions.

"During this period the average earnings of the work-people increased from 1080 marks in 1885 to 1655 marks in 1907, falling in 1908 to 1633½ marks, but rising again in 1909 to 1658 marks."

TABLE V

COMPARATIVE STATEMENT OF CONTRIBUTIONS PAID ON ACCOUNT OF THE
THREE SYSTEMS OF INSURANCE BY THE HARBURG INDIA RUBBER
COMPANY¹

Year	Sickness Insurance	Accident Insurance	Infirmity Insurance	Together	Per Head of Workmen Employed
	(Marks)	(Marks)	(Marks) [1901]	(Marks)	(Marks)
1890	5,025	6,432	5,205	16,662	23.37
1895	6,262	6,725	6,017	19,004	21.90
1900	10,097	7,266	9,660	27,023	19.22
1901	9,789	7,877	9,119	26,865	20.26
1902	10,195	10,001	9,800	29,996	21.21
1903	12,135	11,903	10,144	34,182	23.56
1904	13,245	12,723	10,510	36,478	24.53

¹ Dawson, *Social Insurance*, 219. (The year 1901 in brackets for invalidity insurance 1890 is probably meant for 1891, the year when the invalidity insurance went into effect.)

One method of comparison which is a favorite with employers is that by which the insurance payments are expressed in percentage of the share capital or of the dividends paid. Some illustrative ratios are given in Table VI.²

TABLE VI

ANNUAL COST OF INSURANCE STATED AS A PERCENTAGE OF CAPITAL

Firm	Per cent
Krupp.....	2
Vulcan Shipbuilding Co.....	7½
Phoenix (Mining and Smelting Co.).....	3½
Kölner Bergwerksverein of Altessen.....	5½
Arenberg Mining and Smelting Co. of Essen.....	4.4
Dahlbusch Colliery Co.....	3.3
Bergbaugesellschaft Neuessen of Altessen.....	6
Essener Steinkohlenbergwerke A-G.....	4.4

² Ib. 214-216.

A comparison of the burden of insurance in its various forms, but including also the cost of voluntary benefits and welfare work, to the share capital and to the dividends paid is shown in a report of the Hansa Bund for 304 large companies. In 1909 it amounted on the average to 2.14 per cent of the share capital and to 23.37 per cent of the dividends. The figures for percentage of capital are considerably lower than those given above, reported by Dawson. The report of the Hansa Bund also compares the payments for insurance with the payments made by the industries to state, city, and empire in taxes. The latter amounted in 1909 to 1.36 per cent of the capital and to 14.8 per cent of the dividends.¹ An investigation by F. Lenz of the expenses of the Gelsenkirchen Bergwerksaktiengesellschaft came to similar results. The insurance payments are about one and one half times as great as all taxes levied upon industry.²

The proportion of premiums paid to the value of the output is obtainable only for a few cases, though this relation is of most importance in arriving at a conclusion as to the possible shift of the burden to the consumer. The Dahlbusch Colliery Co., of Essen, paid insurance contributions of 441,260 marks on an output of 1,059,000 tons of coal in 1909, an average of 42 pf. (10½ cents) per ton. The Essener Steinkohlenbergwerk Aktiengesellschaft, with an output of 1,814,906 tons of coal, paid for insurance 1,635,800 marks, or 90 pf. (22 cents) per ton. The Bergbaugesellschaft Neuessen paid 40 pf. (10 cents) per ton of output. The Association of Colliery and Smelting Works Owners of Upper Silesia paid, on account of workmen's

¹ *Denkschrift des Hansa Bundes. Die öffentlich-rechtlichen Belastungen von Gewerbe, Handel und Industrie*, 8 (1912). Cf. note, *infra*, 92. Cf. Zahn, *Belastung durch die deutsche Arbeiterversicherung*, in *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, XII. 1144.

² Lenz, *Zur Frage der sozialen Belastung unserer Industrie*, in *Schmoller's Jahrbuch für Gesetzgebung, Verwaltung und Volkswirtschaft im Deutschen Reich*, XXXV. 1129-1142, 1135 (1911).

insurance, 12 cents per ton of entire output, of which 3 cents went for accident, 8 cents for sickness, and 1 cent for invalidity insurance.¹ Greissl figures the cost of insurance in the beer brewing industry as not over 10 pf. ($2\frac{1}{2}$ cents) per hectoliter, or less than 1 per cent of the wholesale price.² Dr. E. Jüngst gives data for the anthracite coal industry of Oberbergamtsbezirk Dortmund, showing the growth of cost of insurance since 1857, the earlier figures relating to the special provision for the mining industry which was regulated by the Prussian law. The "social contributions," including the contributions of employers as well as of employed, amounted in 1857 to 21 pf. ($5\frac{1}{2}$ cents) per ton; 12 pf. in 1864; in 1886, 26 pf.; in 1894, 43 pf.; in 1904, 60 pf.; and in 1911, 80 pf. To give the amount which the employers have to pay the figures should be reduced by nearly half. In proportion to the value of the product, the "social contributions" were 5.5 per cent in 1886, 6.8 per cent in 1894, 7.2 per cent in 1904, and 8.2 per cent in 1911. The same correction should be made here as above.³

Branchart gives a table based on the returns of a number of large firms in various lines of manufacture. The ratio of the contributions of employers to social insurance to the total selling value of the product ranged from 0.33 per cent to 1.8 per cent in 1900, from 0.41 per cent to 2.75 per cent in 1905, and from 0.34 per cent to 2.21 per cent in 1912.⁴

Does this burden constitute a handicap upon German industry? Perhaps the best method of treating this question of the effect of the burden in Germany is to give the

¹ Dawson, *Social Insurance*, 215-217.

² Greissl, *Wirtschaftliche Untersuchung über die Belastung der deutschen Industrie durch die Arbeitsversicherungs- und Schätzungsgesetzgebung*, in *Schmöller's Jahrbuch*, XXIII. 855-912, 884, 885 (1899).

³ Jüngst, *Die Leistungen des Ruhrbergbaues auf dem Gebiete der sozialen Zwangsversicherung*, in *Glückauf*, XLIX. 251 (1913).

⁴ Branchart, *Zur Frage der Belastung der deutschen Industrie durch die Arbeitsversicherung*, in *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, XIV. 480 (July 1914).

TABLE VII

COMPARISON OF EXPENDITURE FOR WORKMEN'S INSURANCE TO SELLING
VALUE OF PRODUCT¹

Kind of Business	Per cents that Contributions make of Selling Value of Product			
	1900	1905	1910	1912
Machine works.....	0.92	0.87	0.98	0.87
Machine tool company.....	1.8	0.8	1.1	1.1
Brewery.....	0.8	0.7	0.7	0.6
Machine factory.....	0.6	1.2	1.05	0.93
Portland cement works.....		1.1	0.9	0.9
Cotton spinning and weaving mill.....	0.6	0.6	0.7	0.7
Mine and smelting works.....	0.61	0.83	1.45	1.38
Large-machine factory.....	0.71	1.30	1.29	1.18
Cotton spinning mill.....	0.25	0.33	0.34	0.32
Mechanical cotton spinning and weaving mill.....	0.4	0.5	0.7	0.6
Dairy.....				0.41
Gas engine works.....	0.67	0.99	0.78	0.72
Spinning mill.....	0.52	0.52	0.74	0.79
Powder mill.....	0.58	0.57	0.39	0.34
Chocolate factory.....	0.48	0.63	0.65	0.75
Writing and accounting mate- rials.....	0.33	0.41	0.45	0.44
Mining association.....	1.50	2.75	2.51	2.21
Mining association.....	1.48	2.53	2.41	2.06
Large-machine factory.....	0.33	0.90	0.75	0.79
Manufacture of explosives.....	0.42	0.68	0.76	0.62
Large-machine factory.....	0.83	1.14	1.25	1.10

¹ Branchart, *Zur Frage der Belastung der deutschen Industrie durch die Arbeiterversicherung*, in *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, XIV. 478.

history of the discussion on the subject and to present the conclusions reached by those best informed on the situation. The discussion will necessarily include a treatment of some of the theoretical difficulties and will form an appropriate introduction to the general theoretical problems of the following chapter.

The first attempt to answer the question and to get concrete evidence upon the industrial effects of social insurance in Germany was made in 1899 by Greissl, the director of a factory in Munich.¹ The main conclusions which he reached were as follows: The maximum limits of the burden upon the employers form such a small percentage of the wage and especially of the selling price that it is of no decisive importance even to producers competing for the foreign market. He estimated that the highest cost for accident insurance even in the most dangerous trades would not be over 3 per cent; sickness would cost about $1\frac{1}{2}$ per cent and invalidity insurance 1 per cent of the wage cost,—in all $5\frac{1}{2}$ per cent. This represents in terms of the final price but 1 per cent or less. He found that in the majority of cases this increase in cost would not be sufficient to affect price at all. In actual practice it is met or made up for by improvements in methods and technique of production by means of which expenses can be lowered. The introduction of social insurance was simply a spur to the discovery of new methods, elimination of waste, and improvements in production. He appeals to the facts of a continuous increase of wages for 15 years, the expansion of industry, and the increase of exports—which could hardly have taken place had the cost of insurance proved a "burden"—to bear out these conclusions. A period of economic expansion is the most favorable time to introduce such reforms, but Greissl thinks that even if conditions had been unfavorable and the market depressed, insurance would have constituted no real burden upon German industry.

Costs of manufacturing a product cannot be estimated beforehand with any degree of certainty. Prices and the quality of raw materials in the beer-brewing industry, for example, may vary so much as to make a difference of 10 to 20 per cent in the cost of production over a series of

¹ Greissl, *Wirtschaftliche Untersuchungen*, in *Schmoller's Jahrbuch*, XXIII. 855-912 (1899).

years. Over against these variations an item of only 1 per cent of the price is insignificant. With regard to the fear of foreign competition Greissl urges that the argument assumes either that prices will rise and home producers will be eliminated, or that profits will fall and they will stop work. The amount of the burden is so small that it can have practically no effect upon prices, and any manufacturer who produces for the foreign market must have a profit in expectation so much in excess of this amount that it would make little difference if it did reduce profits. The latter alternative, moreover, presupposes that it will be impossible to make up the amount in other ways. Finally, the export trade utilizes only a small part of total production, employing at most not over 15 per cent of the insured workmen, and, with the exception of the sugar industry, the burden resulting from accident insurance in exporting industries is considerably lower than the average. In the home market all domestic producers are similarly situated and at most the insurance could only result in an increase in prices.

In answer to the objection that though costs may have been decreased by improvements in production these improvements would have taken place anyway and would have meant an increase in profits, Greissl urges that it would not be fair to conclude that the cost really comes out of the profits of the enterpriser, because such an increase of profits would be only temporary and would quickly be reduced to the normal level by competition.

Greissl's study is one of the best that has been made. As to the actual amount of the cost of social insurance there is no controversy. Writer after writer appeals to the fact of the expansion of industry and the increase of wages to substantiate the conclusion that the payments do not handicap the German producer. It may be quite true that a cost item of only 1 per cent of the price is, in view of the variability of the other factors, of no special consequence in any one year; but it is not clear that, as Greissl assumes, a 1

per cent increase of cost, as a regularly recurring item, would not make a substantial difference over a period of years. He emphasizes the advantage (from the point of view of the workers) in the specification by law of the minimum benefits which the employers and the different funds have to grant. Otherwise, he says, in case of business depression there might be danger that the benefits would be curtailed and the workers suffer. But he overlooks the possibility that wages may be reduced as a factor in cost or that wages may now not be so high as they would have been if no social insurance had been introduced.

Professor Friedrich Zahn, in his excellent description of German Workingmen's Insurance written for the Paris Exposition in 1900,¹ treated of the effect of the institution upon industry. He points to the fact that it is not in every case a new pecuniary burden, for many employers had made provision for employees before. As against other factors affecting business, the burden of social insurance has been negligible. In fact, he argues, the other factors,—prices, quality and cost of raw materials, wages, freight rates, changes in the market for capital, exchange, and tariff policies,—have been so favorable on the whole that a great expansion of German trade has taken place. The export industries have not suffered. The new burden has been a partial cause of the improvement in the technique of industry. In any case, he thinks, there can be no talk of a shifting of the burden on to the workers, whose wages have in general risen greatly, nor has the burden been shifted, through an increase of prices, to consumers. There may, however, have been a slight shifting of production from the factories to domestic industry in certain lines, owing to the exemption of the latter at first from the payment of insurance premiums.

Paul Steller takes the position that the employers are

¹ Lass and Zahn, *Einrichtung und Wirkung der deutschen Arbeiter-versicherung* (1900).

seriously burdened by the expenditure for social insurance and public taxes. This view he proceeds to support by showing the relation of the "public burdens" to dividends paid. In some cases, according to the published reports of stock companies, they are equal to 60 per cent or more. In the case of one mining company a serious reduction in dividends is attributed by Steller to the weight of the public burdens.¹

Professor Herkner criticizes the term "public burdens" as used by Steller. It seems to have included state and local taxes, contributions to the chambers of commerce, insurance premiums, and voluntary contributions to welfare work. He makes the further point that it is misleading and unwarrantable to compare the "burdens" with dividends paid, for these last do not necessarily correspond to net income but may depend rather upon the dividend-paying policy. Dividends would not have been higher in the absence of contributions, because of the action of competition in reducing profits to an average level.² Professor Herkner urges that companies in the export industries,—the chemical, coal and iron, and textile industries, for example,—have paid rather higher dividends than the average for all stock companies.³ Further, there are compensating

¹ Professor Herkner shows it was due to special conditions affecting the business. *Die sozialen Lasten der deutschen Industrie in neuer Beleuchtung*, in *Preussische Jahrbücher*, CXLIV. 109-10 (1911).

Articles by Steller:

Das Uebermass der öffentlichen Lasten der Industrie in Deutschland. (Köln, 1910).

Erhöhung der Gesteungskosten der deutschen Industrie durch die sozialen Lasten. Eine Antwort an Herrn Prof. Dr. H. Herkner. (Köln, 1911).

Das Unternehmertum und die öffentlichen Zustände in Deutschland. Eine Zeitbetrachtung. (Berlin, 1911).

² Herkner, *Die öffentlichen Lasten*, in *Preussische Jahrbücher*, CXLII. 539-43 (1910).

³ Herkner, *Die Belastung der Industrie im In- und Auslande*, in *Preussische Jahrbücher*, CXLIII. 167 (1911).

burdens laid upon foreign industry. In England the poor rate is extremely heavy, and the recent increase in taxes for social purposes, including the pensioning of the aged and the establishment of the new social insurance, more than equalizes matters. In America, wages are enough higher to compensate for the burden of social insurance in Germany.¹ With reference to the alleged emigration of capital Herkner holds that the tariff policies and patent laws are more important as forces inducing enterprisers to build factories abroad. The social "burdens" are a minor matter.² In short, the export industry of Germany is not suffering, the home producers for the home market are all burdened alike and they can secure the extra cost from the consumer. There is therefore no ground for the claim that industry is overburdened.

Professor Herkner's arguments suggest the complexity of the whole question. If all the different conditions of production in different countries,—differences in wages, differences in taxation and its incidence, differences in other costs,—must be taken into consideration, it is quite clear that there can never be any very definite statistical answer to the question. For practical purposes the establishment of social insurance and the consequent increase of the burden upon industry must be justified, if at all, by actual results. The general point made by Professor Herkner seems to be that social insurance burdens are not a decisive industrial factor, either because similar insurance exists abroad or because there are other compensating costs. German industry is not seriously handicapped in foreign trade, and in the competition for the home market all the producers are subject to insurance. His statement that the higher wages paid in America, where there is no social insurance,

¹ "If the wages of the English workers in the metal industry are placed equal to 100, the wages paid in Germany, according to Shadwell, would range between 65 and 78, and in America, 161 to 169." Herkner, *Die Bekleidung der Industrie im In- und Auslande*, in *Preussische Jahrbücher*, CXLII. 541.

² *Ib.* CXLIII. 170.

are a compensating factor, suggests the possibility that insurance costs in Germany may really have been shifted to the workers.¹

An excellent monographic study was published in 1911 by Friedrich Lenz.² It analyzes the expenses and income of a coal mining company, the Gelsenkirchen Bergwerks-Aktien-Gesellschaft, which employed on an average, in 1905 to 1909, 46,000 workmen. By a careful study of the special conditions under which this particular firm operated, of the variations and growth of the amounts paid for social insurance and for taxes, of variations in market conditions, of the growth of business, of changes in wage rates, in gross and net income, in dividends paid, capital invested, etc., the conclusion is reached that the ratio of the social burden to "gross income," *i.e.* income before operating costs, taxes, insurance contributions, and depreciation have been deducted, expresses most fairly the weight of the burden.³ For the particular company under consideration the payments for social insurance plus taxes equalled two tenths of the "gross income" and three tenths of the charges deducted from it. The amounts required for insurance have increased much faster than the "gross income." He finds, however, no special effect on dividends traceable to the imposition of these payments.⁴

¹ "Man kann es, wie es in Nord-Amerika der Fall ist, den Arbeitern überlassen, selbst für ihre Versicherung zu sorgen und bei Unfällen Haftpflichtklagen gegen ihre Arbeitgeber anzustrengen. Unter diesen Voraussetzungen müssen die Arbeiter höhere Löhne beziehen. Dass sie tatsächlich in Amerika unverhältnismässig höher sind, ist zur Genüge bekannt." Herkner, *Die öffentlichen Lasten*, in *Preussische Jahrbücher*, CXLII, 541 (1910).

² Lenz, *Zur Frage*, in *Schmoller's Jahrbuch*, XXV. 1129-1142.

³ *Ib.* 1140. It may also be compared to total expenses—operating costs, taxes, insurance contributions, and depreciation—or to the value of product.

⁴ Lenz summarizes his arguments in the following words: "While therefore the increase of the social burden shows no perceptible connection with the amount of dividends declared, we see by closer exam-

In 1912 the Hansa Bund published figures for 304 stock companies showing the amount and relation of insurance payments and taxes to dividends declared, for the ten years 1900-1909.¹ For the last year the insurance premiums were equal in amount to one fifth of the dividends, having increased from about 14 per cent in 1900. In two or three industries, especially in the mining industry, the average was over 50 per cent of the dividends. Compared with all taxes paid by these companies, the contributions for insurance were nearly half as large again. In view of the statement of Professor Herkner that the stock companies are more heavily burdened with taxes than other forms of industrial enterprise,² the relation of insurance to taxes may be somewhat lower than the average. The comparison

ination that it is the economic conditions and the temporary state of the market at the time which influences now as formerly the increase and decrease of the rate of profit. . . . The excess of value per ton rises and falls corresponding to the selling price received, while the "weight" of the social burdens in spite of its absolute increase falls in time of prosperity and increasing surpluses, but rises in times of depression and weakening selling prices." *Ib.* 318.

¹ *Die öffentlich-rechtlichen Belastungen.* (1912). Jüngst criticizes this report on the ground that it leaves it an open question whether or not the contributions of the employees as well as those of the employers are included. Jüngst himself proceeds to include them and treats the two together as the "burden." The introduction to the Hansa Bund's report runs as follows: "In den folgenden Tabellen sind für die einzelnen grösseren Wirtschaftsgruppen die staatlichen, Gemeinde- und sonstigen Abgaben sowie die Beiträge zur Sozialversicherung in absoluten Zahlen. . . ." This would naturally mean the contributions of employers to the three forms of insurance; if it included those of the workers too the title of the report would be a misnomer. The study of F. Lenz gives for a large coal mine a ratio of employers' contributions to insurance to the tax payments of 2 to 1 for 1909; 1907 $1\frac{1}{2}$ to 1. The ratio of contributions of both employers and employees to taxes in 1909 was $2\frac{1}{2}$ to 1 (1907: estimated $3\frac{1}{2}$ to 1). The Hansa Bund figures the average contributions for the mining industry as nearly three times as great as the tax burden.

² Herkner, *Die öffentlichen Lasten*, in *Preussische Jahrbücher*, CXLII. 540.

may be misleading in this respect: a large part of the taxes are levied on net income and according to accepted theory cannot be shifted; the insurance payments are levied with the expectation that they will not be borne by the enterprisers themselves.

W. H. Dawson treats of the costs of insurance in one chapter of his excellent description of German workingmen's insurance.¹ He concludes from the facts of great expansion of industry, increase of wages—in comparison to which the increase of insurance premiums is insignificant—and from the extension of insurance, that the system is not a handicap upon German industry. He quotes from a speech of E. Schmidt, a representative of the tobacco trade:

In any event, it is certain that it is hardly possible to speak of these insurance contributions as constituting any special burden on industry, for if you regard the sum so paid, not as a percentage of wages, but of the year's turnover, it does not exceed $\frac{1}{2}$ per cent., so that in calculating the cost of goods that is the extent of the expense to be allowed for. That is so small a sum that it is neither right nor just to make a noise about it, and pretend that we can no longer pay it if our workpeople are to have increased benefits by new insurance legislation. Speaking honestly, as one employer to another, I am of opinion that the investment in these insurance contributions is not a bad one.²

Professor Zahn, writing in 1912, emphasizes the same points. He appeals to the flourishing condition of German industry, to the additional voluntary expenditures of employers for pension systems and welfare work, and to the great increase in the wages of workmen for proof that German producers have been able easily to bear the burden of social insurance. He places against the outlay on the part of employers the direct and indirect benefits resulting from insurance, and holds that the betterment in the health of workingmen and in their attitude toward their work have, by increasing their productivity, contributed no little

¹ Dawson, *Social Insurance*.

² *Ib.* 235.

toward making possible the expansion of German industry.¹

E. Jüngst has furnished a few details about the burdens upon the anthracite coal mining industry. Here it is no new burden, having been imposed as early as 1857. The cost has grown greatly, however, in the last few years.²

In a contribution to the *Preussische Jahrbücher* in 1913, Lenz comes to the conclusion that there is really no doubt with reference to the general ability of German industry to hold its own with foreign competition. The advisability of social insurance is no longer an open question. But the individual establishment and the individual industry may suffer. In this case the question is not that of the abolition of social insurance in general, but merely that of methods of lightening the weight of the burden for the particular industry.³

A detailed investigation made in 1913 by the same writer, into the effect of the burden of social insurance and taxes upon the profitableness of the Schultheiss Brewery, is especially interesting because of the unusual ratio of insurance to taxes, and because of the very great increase in the weight of the latter since the tax reforms of 1906 and 1909. The proportions which social insurance contributions plus taxes bear to total expenditures and to gross income are shown in Table VIII. For the first period, from 1870-75 to 1901-05, the "public burdens" formed a constantly decreasing per cent of expenses and of gross income. Yet,

¹ Zahn, *Belastung durch die deutsche Arbeiterversicherung*, in *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, XII. 1126-1160 (1912).

² Jüngst, *Die Leistungen des Ruhrbergbaues*, in *Glückauf*, XLIX, 249-256; 292-297; 327-337 (1913). Curiously enough, he compares the amount of "social contributions," including payments of workers as well as of employers, with the value of product, as though the employers had to pay the contributions of the workmen as well as their own.

³ Lenz, *Sozialpolitik und Unternehmertum: Zugleich ein Beitrag zum Methodenstreit in der Privatwirtschaftslehre*, in *Preussische Jahrbücher*, CLII. 313-322, especially 314-315.

in spite of the decline of the burden during the first three five-year periods, there is no effect shown on the dividends. The present level of dividends was reached in 1886-90 at a single leap, though the effect of the extension of compulsory social insurance commences for this period. Since 1906 the proportion of taxes plus insurance contributions to the total expenditure and gross income has doubled and nearly tripled, yet it seems to have had little or no effect upon dividends. Social insurance contributions were 5.6 per cent of the sum of insurance plus taxes in 1881-90. They rose to a maximum percentage of 10.6 in 1901-05; sinking after the taxes levied directly upon beer were raised (though the proportion of social insurance contributions to wages had itself increased) to 6.7 per cent in 1906-08 and to 3.5 per cent in 1909-11. The brewing industry has adjusted itself to a special increase of taxation without appreciable change in its ability to pay dividends. And this increase was so heavy as to make the weight of the burden of social insurance seem insignificant in comparison. Besides the compulsory social insurance contributions, fairly large sums are expended voluntarily for the welfare of the working men.¹

¹ Lenz, *Die soziale Geschichte des Schultheiss-Brauerei*, in *Archiv für Sozialwissenschaft und Sozialpolitik*, XXXVII. 175-214 (1913). He summarizes the results of his study as follows: "We may summarize as the final result of the second period: first, that the two increases of the tax on beer brought a temporary diminution of profit, but no shrinking of the basis of existence of the industry; and that the rate of profit was influenced primarily by market conditions, weather, and wages, and only in secondary degree by the special social legislation; the economic and natural factors have shown themselves more important than the social factors in this exceptional case. Secondly, the amounts paid for public purposes in the brewing industry show a tendency to fall when the tax-rate remains the same. Ib. 198.

TABLE VIII

RELATIVE WEIGHT OF "PUBLIC BURDENS," SCHULTHEISS BRAUEREI,
1870-1912¹

Period	"Public Burdens" in Percentage of		
	Total Expenditure	Gross Income	Average Dividend
1870-75	33.4	19.0	8.8
1876-80	24.8	16.0	9.0
1881-85	25.3	18.5	8.8
1886-90	22.2	15.7	14.8
1891-95	16.0	12.7	14.6
1896-00	16.1	13.2	15.0
1901-05	15.4	12.8	15.4
1906-07	24.3	20.7	17.0
1907-08	23.0	20.3	14.0
1908-09	23.7	20.4	14.0
1909-10	35.0	30.8	14.0
1910-11	35.1	31.3	15.0
1911-12	34.8	31.2	15.0

¹Ib. 192, 197.

TABLE IX

RELATIVE IMPORTANCE OF SOCIAL INSURANCE AND TAXES,
SCHULTHEISS BRAUEREI 1870-1911²

Period	Percentage of "Public Burdens" represented by	
	Social Insurance	Taxes
1870	0.5	99.5
1871-75	1.2	98.8
1876-80	2.6	97.4
1881-90	5.6	94.4
1891-95	7.7	92.3
1896-00	7.5	92.5
1901-05	10.6	89.4
1906-08	6.7	93.3
1909-11	3.5	96.5

² Ib. 200.

Three papers by Potthof deserve mention.¹ Potthof's viewpoint is in general like that of Professor Zahn, but he puts more stress on the positive advantages of insurance. He finds that the workmen have received in benefits much more than they have paid in contributions, so that there cannot be any serious talk of "burden" here. The employers have received some return in the betterment of the health and the good will of their workers. The burden on the state has been partly offset by diminution in the cost of poor relief.² In many cases the employers have probably shifted the cost to consumers by a slight increase in price. The total increase in price is not equal, however, to the total amount of contributions paid by employers. The purchasing power of the working class has been diminished by the amount of the premiums, but this is more than offset by the amount received in pensions. Accumulation of capital in invalidity insurance has resulted in loans to building associations, hospitals, employment bureaus, and all sorts of welfare work to the advantage of workmen. Insurance has been a great step toward an economy of the human factor in production. From the national point of view it is worth much more than it has cost. Here social measures of cost are introduced in the discussion of the economic weight of the burden.

Finally Branchart has reviewed the whole question once more.³ He first considers the argument that the increase in the relative number of cases where the compulsory collec-

¹ Potthof, *Wer trägt die Kosten der sozialen Versicherung?* in *Schriften der Vereins für Sozialpolitik*, CXXXVII. Pt. 4, 281-288, (1913).

Kernfrage sozialer Versicherung, in *Ehrenzweig's Assekuranz-Jahrbuch*, XXXIV. Pt. 2, 75-89 (1913).

Die Kosten der sozialen Versicherung und ihre Ueberwälzung, in *Suess's (Ehrenzweig's) Assekuranz-Jahrbuch*, XXXV. Pt. 2, 98-119 (1914).

² Zahn treats of the effect of insurance upon workmen's budgets, and upon the state.

³ Branchart, *Zur Frage der Belastung*, in *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, XIV, 475-492 (1914).

tion of accident insurance assessments is necessary shows that the burden is growing too heavy for industry to bear. Investigation of this question in the case of several accident insurance funds, especially in the building trades, shows that there is no marked increase in the proportion of such cases but merely an irregular variation. The proportion of cases where resort is had to legal process for collection is not of itself significant; the proportion of cases of actual default or inability to pay is the true index. This is very low. Branchart cites, for example, the case of the Nord-östliche Baugewerks-Berufsgenossenschaft where trade conditions were extremely unfavorable. For 55.5 per cent of all assessments suit had to be begun to compel payment, but only in 1.98 per cent of all cases was there inability to pay. According to Branchart, the cause of delay is to be found chiefly in the "indifference, forgetfulness, especially in the negligence (*Nachlässigkeit*) of the members."¹ Stringency in the money market, which affected adversely the majority of the smaller companies, and the desire on the part of the larger establishment to have the use of the money led in not a few cases to an open procrastination of payment till the last possible moment, the costs of process laid on delinquents being small. In many cases of default in payment of assessments the inability to pay was due to the ordinary causes of business failure and could not properly be ascribed to the weight of social insurance.

Branchart again emphasizes the point that the advantages of social insurance must be offset against its cost. He is of the opinion, in common with most other writers on the subject, that no satisfactory and complete statistical answer to the question is possible, and is inclined to place the burden of proof, involving the necessity of bringing statistical evidence in support of the claim that industry is overburdened, upon the employers.

The question of a possible loss of competitive power in

¹ Branchart, *Zur Frage der Belastung*, 476.

foreign markets is answered by an appeal to the statistics of export of the principal nations, showing that Germany's share in the world export trade rose from 10.3 per cent in 1885 to 12.5 per cent in 1911, while England's percentage share declined, France's declined, and that of the United States increased but little.

The old argument is once more reiterated that the tremendous growth of German industry is coincident with the enactment of social insurance laws, and a causal connection is sought in the necessity imposed by the new burdens of hastening improvements in technique, greater use of capital, and more profitable use of labor.

Finally, figures are produced to throw light on the question of decline in dividends. The conclusion is drawn that social insurance burdens have had no traceable influence, and that net profits have been and continue to be reasonable.

From this review of the evidence, the conclusion would seem to be justified that social insurance has not proved a handicap upon German industry as a whole. Social insurance premiums are but a small and relatively unimportant part of the total cost of production. There is no proof that dividends have been generally impaired. Facts as to depressions in certain specific establishments or industries may generally be explained in terms of other causes than social insurance. The observed effects of levying a tax (several times heavier than the weight of social insurance) in the beer industry suggests that the possibilities of shifting burdens of this sort are, for some industries at least, very elastic. German industry as a whole has been flourishing and an increasing share of export trade has been taken by Germany. In the face of these broad facts, no other conclusion can be drawn but that social insurance has not been a serious burden upon industry.

CHAPTER VI

THE SHIFTING PROCESS IN INDUSTRY

What would be the effect on American industry of imposing upon it a burden similar to that of the social insurance of Germany? The question is one of the most complicated of economic problems. Opponents of social insurance often argue that it would injure industry, that it would hamper competition for foreign trade, that no state could possibly impose such a burden without forcing its capital and its enterprise to seek other fields more profitable.

In what sense is it permissible to speak of a "burden" upon industry? The arguments of those employers who oppose the introduction of social insurance usually go no further than to point out the sums that they will have to pay in the first instance. But if the amount is received back in increased price, or is made up by savings in other costs, it is clearly allowable to speak of a "burden" only as it is measured by the difficulties and pains of the shifting process. If wages are reduced by the amount of the employers' insurance contributions, it is clear that the employers suffer nothing. Only if enterprisers are forced out of business by a reduction or elimination of profits, if enterprisers emigrate to more favorable localities, if there is a falling off of investment within the state, is it proper to speak of industry as "burdened."

It will be necessary therefore to answer three main questions: (1) What proportion of the cost can be met by shifting the burden to the consumer in higher prices, or by savings in the cost of the productive process? (2) To what extent will an emigration of capital and enterprise take place? Will there be an increased amount of business

failures by reason of insurance burdens, or an avoidance of the state by new investors? And finally, (3) will wages be reduced? Logically this last question is subsidiary to the first; but it is impossible to say how much wages will be reduced without first knowing whether industry will fall off in a state establishing an insurance system. Furthermore, the question of the effect on wages has of course a special importance of its own.

What proportion of the cost will be shifted? Social insurance adds a new cost to production, practically uncompensated by any increase in product. Either prices must rise or other costs or residual elements must shrink. Classical economic theory teaches that an item of cost which is uniform for all producers tends to appear in price. For producers in any one line the cost of insurance, per unit of product, will be approximately uniform. The theory, however, states rather the results after the shifting process has been completed than the way in which the shift takes place. A new cost could appear in price just as well in connection with a decrease of wages as by an increase of price.

Whether the producers will be able to raise the price to the consumer depends on the state of competition in the trade and on the nature of the demand for the commodity. If the demand for the product is elastic, so that the quantity demanded shrinks rapidly with an increase of price, a shift of the burden to the consumer will be impossible, and the producer will have to find some other method of meeting the added cost. An increase in price will be comparatively easy in case of a commodity for which the demand is inelastic.

If an industry is subject to foreign competition, especially if the latter is free from such burdens, or is in a stronger economic position, an increase of price will be difficult. If the industry is secure against foreign competition, prices

may be increased and the burden passed along more easily. Even if severe competition characterizes the home market, an increase in price may follow if all suffer equally under the same burden. In any case it depends essentially on the ability of producers to act in concert against the consumer; in case this concerted action is possible, not even the existence of foreign manufacturers in the same line will prevent an increase of prices. To impose a similar burden on all producers means in most cases to increase price.

If the position of the home industry is weak economically, the producer may be unable to shift the burden to the consumer. Compulsory contribution to social insurance may give large establishments an additional advantage over the smaller ones; and it may rest with the former whether they will raise the price to meet the added cost, or will prefer to expand their business, reducing the costs and forcing out the more inefficient producers.

Of practical importance is the degree of ease with which the price can be moved. Wholesale prices are much more easily shifted than retail; a small shift in wholesale quotations may sometimes not appear in the final price at all, being absorbed by the middleman. In other cases, however, it may give rise to a jump in the price of the final product out of all proportion to the insurance costs.

Having failed to shift the burden to the consumer or to pass it along to the wholesaler, the producer seeks to reduce his costs. It is a question of the easiest way out. The average employer does not have control over the market price of his commodity; but his costs depend to some extent upon his progressiveness, his enterprise, and similar factors. The addition of the new item of cost to the regular costs of production may, by threatening the residual income of the enterpriser, spur him to make new efforts to reduce costs of production. If the outermost limit has not already been reached, he may be able to reduce the manufacturing cost by introducing new machinery or new

processes, by adopting more efficient methods of shop practice, or by eliminating waste. Scientific management has opened a new view of possible achievement in the direction of reduction of costs.

New improvements are made, to be sure, all the time; and it may be argued that they might have been made or introduced even though social insurance had not been adopted. It nevertheless remains true that the extra cost of the latter is made up by the savings in cost of the former. In such a case, prices to the consumer will remain stationary instead of falling, or the profit to the enterpriser will remain what it has been instead of rising. Such a method of meeting the cost cannot be said to impose a serious burden upon industry.¹

A more serious objection to the theory that a part of the cost can be made up by improvements in productive methods is that under conditions of competition there is nothing to prevent the foreign competitor from adopting the same improvements and maintaining his advantage over the domestic manufacturer. Under such conditions he might either pocket the saving derived from such improvements, or if he saw fit, he might force a reduction in price to the consumer corresponding to the saving in cost of production. But the foreign producer has no such immediate pressure placed upon him to make the improvements as has the domestic manufacturer; he will probably prefer to wait till the invention or the method has proved its worth, or till there is some immediate and compelling motive to rouse him out of inertia. It often happens that the sole advantage of an industry located in one section over that in another section consists in the superiority of process, better machinery, and more complete utilization of raw material and of the time of employees. Reduced to its simplest terms, this is nothing more nor less than

¹ Increases in wages are often followed by the introduction of labor, saving machinery, compensating the increased cost of wages by lessened cost of production.

that the one section keeps ahead of the other in discovering and in introducing new improvements.

To impose the burden on the section that is in the lead may reduce somewhat the amount of its advantage, depending on the amount of the insurance payments required. In its ultimate effect the advantage may not be reduced at all. To impose the burden on the more backward section may not have that calamitous result that seems so obvious; but it may act as a spur to the quicker adoption of newer and more up-to-date methods. Massachusetts adopted a ten-hour day for the cotton-spinning trade before any other of the New England States. An inquiry into the effect on the amount of the product showed that per man and per loom quite as much was produced in Massachusetts as in the other states with eleven-hour or twelve-hour days.¹ The cotton mills of New England hold their own against the mills of the South in spite of the much more rigid laws relating to child labor, hours of labor, factory inspection, employers' liability, etc. The imposition of social insurance burdens in Germany has gone hand in hand with a wonderful development of German industry, which has been made possible by the modernization of her manufacturing methods.

Failing to effect a saving in this way, the producer may be forced to shave some of those items that grow with prosperity and shrink with adversity. Among these may be counted the return ascribed to plant as rent. If the factory cannot easily be applied to a more productive purpose, the owner may have to consent to a reduction of the returns rather than have it standing idle. If all other enterprises are laboring under similar pressure this shift will be easier to carry through. The enterpriser's wage of management may be reduced; the only escape is for the enterpriser to seek some other more profitable application of

¹ Massachusetts, *Uniform Hours of Labor*, in *Twelfth Annual Report of the Bureau of Statistics of Labor*, Part III. 457 (January, 1881).

his talents—an outlet which will depend on his ability and the opportunities available and which is rarely as easy as classical economics assumed. In some cases the producer may be able to reduce prices of raw materials, passing the burden backward, in case he is the only consumer, or, if all other consumers are in a similar plight, they may have a price-making position with reference to the goods or services in question. But here the elasticity of the items of cost of the raw material comes into the question as well as the elasticity and urgency of the demand for it.

Finally, the producer may be able to reduce wages. Wages of persons more or less dependent upon him for employment may be reduced without much difficulty. These have the choice of accepting the reduction or leaving the employment and looking elsewhere for a job which they cannot find. Inefficient men and persons well along in years would probably suffer because their economic position is weak. The attitude of trade unions and their strength would have a considerable influence upon the reduction of costs in wages. In the case of an unskilled laborer who can everywhere find an opportunity to use his powers the producer would probably be unable to effect much of a reduction. The laborer is bound to no employer and his work will command about the same price anywhere. The mobility of labor is of importance in this connection. Many workmen might be willing to accept a reduction of pay—especially if temporary—rather than go to the trouble of seeking a new position and moving to a new town. If the insurance system is general, however, it is evident that the question is complicated by the possibility of employers everywhere acting in tacit agreement in their wage policy.

In a period of prosperity and rising prices, the producer will probably be able to shift the cost more easily to the consumer. In case of need he will be able to carry it more easily himself out of his larger profits. Wages, which tend

to lag behind prices in an upward movement, may not be advanced so rapidly. In a crisis, however, the chance of shifting would be much smaller, and the producer might have to pocket the extra burden himself. Under exceptional circumstances he may do this anyway.

The burden will fall most heavily on the economically weak. Large-scale producers have a much more favorable position than the small producers or the hand trades. This is illustrated by the action of large companies in voluntarily establishing pension systems for their own employees. Farmers would find it most difficult to shift burdens imposed on them.¹ This is on account of their lack of organization.

It is impossible to predict how the cost will be met in any concrete case. It depends on all the conditions, of market, of manufacture; it depends upon the possibilities which exist in each industry and in each factory of making up for the added cost by a change in prices and a decrease in the expense. There can be no general answer to the question whether the insurance payments will be a burden to industry. It may be a burden in some lines under some conditions, or to inefficient or marginal producers.

The proportion of the cost that can be shifted varies with the conditions of the industry. Where there is considerable "slack" in wholesale and retail prices, in the prices of raw material and in other costs, a small item of from one to two per cent of the wholesale price can be absorbed without difficulty and without affecting the well-being or threatening the existence of the industry. Where the industry labors under difficulties, the addition of even a small amount is a more serious matter. It would be especially so if imposed for the first time in hard times. For the great majority of industries the burden would probably be so slight that it would be a matter of little difficulty either to make it up in another way or to shift it.

¹ Farmers are included in the scope of the German accident insurance.

CHAPTER VII

EFFECT OF INSURANCE UPON CAPITAL AND ENTERPRISE

Under the present system of industrial organization the enterpriser or the employer is directly responsible for the conduct of industry. Capital is invested under his direction, and he seeks and utilizes the opportunities for profit that appear most remunerative. Insurance places a burden upon the employer or enterpriser which he attempts to shift; but if he is unable to force others to accept the burden, he is compelled to bear it himself as the residual claimant.

The effect of social insurance upon capital and enterprise becomes a matter of especial importance when insurance is adopted in a single state. The possibilities of emigration must be taken into account. Capital can be invested in a neighboring state and enterprisers will move there, if the prospective return appears to be greater. If the burden of social insurance bears with any considerable weight upon enterprise or capital, industry within the state will suffer. To what extent would an emigration of capital or failure of enterprisers take place as a result of a system of insurance?

In considering the effect on capital it will be necessary to distinguish between the effect on capital already invested and capital seeking new investment. Capital already invested is relatively immobile. The value of the plant does not depend upon the initial investment cost, but on the actual and prospective returns. The effect on capital already invested will appear only in so far as the returns on the property and the enterprise are curtailed, and will tend to show itself in a revaluation of the plant to corres-

pond with the capitalization of the return at the current rate of interest.

Can such capital emigrate to avoid this contingency? To the owner of an establishment or factory there are two alternatives: to sell his plant, or to let it run down and abandon it. Adopting the first alternative, he secures only its market price, which will necessarily depend on the value ascribed to it by another enterpriser on the basis of its earning capacity under the new conditions. The second alternative is to hold back the replacement fund and reinvest it elsewhere. The amount of this replacement fund would have to come in the remaining years of the life of the plant from the income received; in case of the lessening of this income, it would appear that the amount of the fund and the practicability of withdrawing it would be affected adversely.

The tendency to revaluation would be different for different grades of fixed capital. Where the present value of fixed capital is considerably higher than its original cost, where there is a large element of "good-will" or "franchise value," revaluation will take place on the basis of the new income. The value of a railroad is in large measure independent of the cost of mere maintenance, and a shrinkage in income would mean nothing more nor less than a fall in value of stock. The value of patents and of the exclusive ownership of natural monopolies might be affected by the loss of income. Capital invested in a growing industry in which normally a certain number of factories are replaced every year to keep up to the demand will be valued at or near the cost of replacement; and here a readjustment will have to take some other form than a simple lessening either of the replacement fund or of the value of the plant.¹

¹ It may be pointed out here at the risk of repetition that it does not necessarily follow that there will be any serious reduction in return to be taken into account by the enterpriser or the owner of fixed capital. The additions to cost may be made up in improvements in technique, by savings in raw materials, and other economies. Only to the extent that no other outlet is available does an effect on capital have to be considered.

Capital which is invested in relatively fluid forms is in no such difficult position. A business not requiring any specialized factory and not using a large amount of fixed capital may very easily be transported across the borders to a state where conditions are easier. Such capital would respond much more quickly to pressure and is not so dependent for its value on the precarious future income of the business.

The crucial question is whether the returns on new capital invested within the state would be lessened. Would the opportunities for new investments be restricted? Enterprisers and capitalists seeking fields for investment have the option of going to the state where a system of insurance is in operation or of investing in a neighboring state. The decision will depend on the relative advantages of one state over the other for the particular kind of business they are seeking to engage in; and the relative weight which must be given to payments for insurance as compared with the other advantages and disadvantages.

Among the inducements which appeal to the prospective enterpriser in determining the location of his place of business or factory are: the state laws relating to corporations, local and state taxation, the presence of a skilled body of laborers, the efficiency and cost of labor, nearness to market and to raw materials, and railroad facilities. There would also have to be reckoned the "burden" of workmen's insurance or of old-age pensions. In many industries one or the other of the enumerated conditions is of determining importance. In these the burden of workmen's insurance would cut no figure at all. In some lines, obvious advantages are offset or nearly offset by disadvantages, and the additional burden of insurance would be considered. The establishment of cotton mills in the South brings the advantage of nearness to cotton and coal and iron, but the serious disadvantage of lack of reliable skilled labor; the establishment of workmen's insurance in Massachusetts would

mean simply an additional small item to be considered by the enterpriser in deciding where he shall locate his plant.

As has already been shown, the actual burden of insurance is very slight. It forms a very small percentage of the wages, and an almost insignificant amount when compared to the price of the product. The conclusion would therefore be entirely justified that the burden of workmen's insurance is relatively of slight importance and would affect little, if at all, the opportunities for new enterprisers or the field for new investments.

The situation of Germany with reference to emigration of capital is much more favorable for the maintenance of the demand for labor than would be the case after the introduction of compulsory insurance in an American state. All of Germany is uniformly under the system of insurance. To escape the burden capital must seek foreign investment; and in a country where the feeling of nationality is so much developed there is a much greater desire on the part of capitalists to invest in Germany and develop home industry than to invest in France, England, or Russia, or even in South American countries or in the United States. Tariffs and patent laws, as suggested by Professor Herkner, are probably of much greater weight. The case of one or two American companies establishing plants in Germany would tend to confirm the impression that the social burdens are not of the first importance in deciding the movements of capital.

There remain to be discussed the influence in stimulating industry of the new demand arising from the stream of income diverted to the pensioned classes and the effect of insurance on the accumulation of capital. The direction of demand arising in the state is changed to an extent depending on the proportion of the sums paid in pensions which is drawn from other sources than the income of the

workers. Industry must naturally adjust itself to the change in demand.

In a closed economy the total value of goods demanded would not be changed. More would be demanded of goods produced for the working classes, less of goods consumed by other classes. If proportionately more labor is required for or goes into making goods purchased by the working classes, such a change might be accompanied by some increase in the demand for labor.

Industry in a single state adopting social insurance would not be affected appreciably by such shifting of demand. Any lessening of demand of certain classes would affect merely the general market demand for goods produced exclusively for those classes, any increase of demand on the part of pensioned workingmen would likewise affect only the general market prices. Local effects would occur only in so far as the shift in demand affected products the local supply of which ruled the market, and would be favorable or adverse as the demand shifted to or away from goods produced by industries of the state. The conditions of industry within the state would still be determined largely by the influences affecting the emigration of capital and the success of enterprisers within the state borders.

The effect of insurance on the accumulation of capital may be treated briefly. There is no reason to suppose that the rate of interest would be lowered.¹ In Germany large insurance accumulations have been made, in invalidity insurance especially, and these can be considered as additions to the capital of the country.

The effect of such accumulations on industry depends on how they are invested. If there were no condition requiring such capital to be invested within the state, it could have little effect on the situation there. It would mean only an increase of capital in the general market, and the investment of this within the state would be encouraged or

¹ The effect of insurance on thrift will be discussed in a later chapter.

discouraged by the conditions for new investment there as compared with conditions elsewhere. Even a requirement that it be invested in local securities or local enterprises would be of little effect, for if it were invested in securities or ventures which would otherwise have attracted other capital, it would simply free the latter. This capital would then seek further for the most satisfactory and remunerative investment. If invested, however, in fields not attracting other capital by the prospective rate of return, such as in social welfare work, workmen's tenements, employment bureaus, etc., etc.,—objects having a justification other than that of securing a regular return on the cost,—there might be a slight effect in encouraging local industry and furnishing a new demand for labor within the state.

CHAPTER VIII

EFFECT OF INSURANCE UPON WAGES

The subject of the effect of an insurance system upon wages deserves a special treatment, because of the widely prevalent belief that its effect must be to reduce wages by the amount of the benefits.

There are two views held. One is that commonly held by persons who are anxious to fix by law the share of sickness or of old-age insurance premiums which the workmen shall contribute,—that the payments made by employers have no effect on wages. This is, further, the position taken by most advocates of a state pension for aged persons. L. W. Squier argues that workers are not now receiving a “living wage” and cannot be expected to contribute to pensions.¹ Professor Hitze, writing upon the German insurance system, declares emphatically, “It is a measure for the safeguarding of the wage. . . . It is recognized that the wage must cover not only the needs of the worker during his period of activity, but also must provide for a replacement of the capital necessary for the education and care of youth, the expenditure for a day of sickness, old age, risks of life and health as far as they are connected with the work. . . . Insurance is the only method of ensuring this minimum wage; the insurance contributions form a part of the wage.”²

On the other hand, a suspicion is quite prevalent among the business public and among economists that it is not so easy to raise wages as is thus assumed. It is held that

¹ Squier, *Old Age Dependency*, 50, 328.

² Hitze, *Zur Würdigung der deutschen Arbeiter-Sozialpolitik. Kritik der Bernhardschen Schrift: Unerwünschte Folgen der deutschen Sozialpolitik*, 98.

wages are fixed by economic forces, which cannot be altered by mere resolutions of a body of legislators. The Massachusetts Commission on Old Age Pensions held very strongly to this opinion.¹ The prohibition, in the German law, of shifting premiums to the workers may be referred to in passing. The low wages paid in government positions where a pension is held out as a reward after the completion of a certain period of service are often cited as evidence of an adverse effect upon wages.² Professor Taussig believes that "the outcome is likely to be that the insurance charges will ultimately come out of the workmen's own earnings."³ There seems therefore to be ample reason for examining the proposition involved and subjecting it to a critical analysis.

Changes in wages may be due to changes in the supply of or to changes in the demand for labor. These may be conditioned or caused by a change in the psychological attitude of the laborer. The wage cannot usually be reduced beyond what the average workman thinks is fair or "decent," or he will prefer to lay down his tools rather than work. On the other hand, wages may be increased or decreased as a result of an increase or a decrease in the demand for labor.

The supply of labor in different occupations could be affected as a result of introducing accident compensation only in two ways: First, by a movement of the supply from the less to the more dangerous trades, because of the greater value of the chance of securing accident compensation. This might take place within the state. Second, by an increase of immigration from the industries of a state which did not offer compensation to its workers, to secure the advantages of compensation for accident without loss of wages.

¹ *Report of the Commission*, 250-254 (1910).

² Cf. Brown, *Savings and Annuity Plan Proposed for Retirement of Superannuated Civil-Service Employees*. 61st Cong., 3d Sess., Senate Doc. No. 745, 58-60.

³ Taussig, *Principles of Economics*, II. 327.

There would be no general shifting from the less to the more dangerous trades. Workmen do not stop to calculate before engaging in a dangerous trade how much their accident insurance will cost them; in most cases they do not appreciate the amount of danger. Those who do would still estimate the chance of loss of life or the chance of injury and find therein an excellent motive for avoiding the trade. Enjoyment of accident pensions is not something to which workmen normally look forward with pleasure, either on their own account or on the part of their survivors.

Migration from a state without accident compensation is likewise little to be feared. Those who fear this assume that workmen do estimate danger and seek to allow for it, which is scarcely borne out by the facts. They assume far too great a mobility of labor and too much knowledge of all the conditions to accord with reality. Skilled workmen would be more likely to consider such differences in laws than unskilled. But the migration of a workman with his family from one state to another to secure more adequate compensation in the event of an accident killing or injuring him, involves a keenness of imagination and of susceptibility to possible danger that would be apt to deter him from undertaking the dangerous railroad journey! In so far as the actual daily or weekly wage is not increased, there would be no appreciable effect on the supply of labor.

The relative supply of labor in the principal occupations would not be affected by a general provision for old age. To the extent that the system was common to all branches there would be no temptation to change from one line of work to another. The argument from the effect of government pensions on the rates of wages in those occupations does not apply if the pension system is general. Government pensions in Great Britain and elsewhere have been coupled with low wages for such positions,¹ but this can be

¹ Brown, *Civil Service Retirement, Great Britain and New Zealand*, 14-15. 61st Cong., 2nd Sess., Senate Doc., No. 290. A very interesting account of wage psychology.

explained partly as the effect of the general conditions of employment, including small chance of dismissal and agreeable work, and partly by the greater attractive power of prospective pensions and a consequent willingness of workers to accept less in government employ than elsewhere. An interference with the mobility of labor may be a result of a partial system of pensions. Professor Seager explains the influence of the special provision for professors at Columbia University.¹ A man who had taught there for a number of years would be willing to stay even though he might receive an increase of salary by accepting another position. He would be influenced in his decision by the value of his claim for pension. No such tendency or influence would appear if the pension system were general. But a general system of pensions for members of the working class would likewise not involve any tendency to reduce wages because of a greater influx of labor into the occupations concerned.

The only influence considered as tending toward a general decrease of wages on the side of the supply of labor is possible immigration. A state or nation with a system of old-age pensions, it is urged, will attract workers into it from neighboring states to enjoy the promised benefits. Obviously, the amount of attractive force will depend on the system introduced. A compulsory contributory system where the worker pays the entire cost will have no positive effect (and might even have a negative effect), while the maximum allurements would be held out by the straight pension. The yearly value of a future pension, say of \$100, would not represent a very great increase of wages; and differences of wages much in excess of that exist and persist in the same trades in localities not far distant from each other, even in the same state. Differences in wages arising from other causes than insurance would therefore continue to exert by far the more important influence on migration. Differences in school facilities and in conditions

¹ Seager, *Social Insurance, A Program of Social Reform*, 122-123.

of living would probably be of more importance than old-age pensions. For a laborer who is already settled in one locality, emigration with a family to a place where conditions are not very well known is a venturesome undertaking. The floating body of workmen are not nearly so much concerned with the problem of old age as with the immediate satisfaction of their daily needs. For the working class as a whole the offer of a state old-age pension would be a very small incentive to a change of residence.

Any movement of workmen already nearing the age when a pension would be granted could be prevented by a residence requirement. This difficulty, moreover, would be found only in the case of a straight old-age pension, and would not have to be taken into account in any compulsory insurance scheme in which the amount of pension received depended on the amount of the contributions made.

Aside from immigration there would be no increase of the number of laborers. An adverse effect upon wages must then result either in a psychological willingness to accept less on account of the insurance provisions, in a lessening of the demand for labor, or in the unwillingness on the part of the employers to pay as much^a as before. There is also the question as to whether the price of products will rise to such an extent as to affect the cost of living of the class to be pensioned. This question may be easily dismissed so far as a total offsetting of the advantages of pensions for the class under consideration is concerned, for though the prices of many articles may rise, the advance will certainly not fall entirely or even principally upon the working class.

The psychological aspect of the risk of accident on wages has already been discussed. The conclusions and the implications of that discussion may be briefly stated. There is no sound basis for the theory that extra pay is demanded by workmen for extra risk, except where workmen insure themselves either individually or collectively against accident. There will be a willingness to accept smaller pay on

account of adequate workmen's compensation only where accident insurance is already provided and only if such compensation means that the insurance will be discarded as no longer necessary. In the case of the great body of laborers this consideration will be of small practical importance. The average workman does not now realize the need of accident insurance and makes no provision for it. The more certain and more adequate payment of compensation does not render him more ready to accept lower wages; he regards it simply as fairer and more equitable than the older system of employers' liability, as something which ought to have been introduced before. Even in case of workmen who insure themselves, more adequate compensation may not mean that they will consent to a wage decrease. It may bring with it a better realization of the occupational risk, and may not even lead them to abandon their own insurance. The agitation for adequate compensation for injuries received from accidents brings home the idea of the value of human life and, consequently, workmen may still insist on receiving extra pay for their personal hazard.

With reference to old-age pensions, the Massachusetts Commission bases its conclusions that a fall in wages or an unfavorable effect on wages will occur even in case of a non-contributory state pension partly on the psychological factor. The Commission argues that wages will fall (1) because of the direct competition of pensioned aged workers, (2) because of "reflex competition," *i.e.* the rate of wages "demanded" or "required" by adult workers would be lessened by a process of advance discounting of the pensions to be received.¹

The first of these arguments looks at first sight to be based on the action of supply and demand. But the aged workers were present and competing for employment before as well as after the grant of pensions. Your pensioned

¹*Report of the Commission, 252-3.*

aged worker may think to himself: "I have been getting a dollar and a quarter a day for what little work I am still able to perform; now the state pays me a dollar a day, I do not 'require' and will not ask for more than 25 cents for my day's labor." A much more probable result in the case of a man who was entirely satisfied with \$1.25 a day would be that he would work but one or two days in five. The grant of a pension gives to the aged worker a strategic advantage in that he can lower his bid without feeling the consequences of it. In bad times, with an overstocked labor market, he may lower his bid in order to get a job. In normal times the aged worker will merely be in a better position to insist on getting what he is worth.

A very probable result would be a fall in wages for part of the aged workers. It often happens now that employers do not turn off an employee who has worked with the firm for a long period of time. They pardon inefficiency and slowness because of the memory of his faithful service. If such persons were to receive pensions, there would be no such humanitarian scruples, and the wage of the aged workman would fall to the level of what his services were worth. This tendency would appear only where employers had been moved by such motives; and in general, this would apply to cases of comparatively skilled workers, in the smaller businesses, in employments where the personal contact of employer and employee is direct and sympathetic. Unskilled labor and agricultural labor would be little affected.

The second argument is an imputation of the same kind of psychology to all adult workers. He is assumed to discount the pension to be received—or the probability that he will live long enough and be poor enough to be eligible to receive gratuitous aid from the state—and to be content with wages that are lower by an annual sum which, accumulated with interest, will equal at the age of seventy the value of the pension. This is a fairly complicated

problem. If the pension system has any such effect upon the wage rate it is certain that the amount of reduction which the worker will accept will be determined by a simple process of guesswork. The difficulty with the whole process, however, is that most workers are not sufficiently aware of the need of providing for old age to make any special effort in that direction. It must be conceded, however, that the promise of a definite pension would probably loom much larger in the mind of the workman, than the fear of poverty or distress on reaching old age.

It is interesting to compare this argument with a similar one rather common in Germany. The workers, it is claimed, really force the employers not only to pay their own premiums or to shift them to the consumer, but also to raise wages by the amount of the premiums which the workmen are required to pay. Wages in Germany have increased very rapidly in the last few years, and part of this increase is ascribed to the working of this psychological pressure.

Both arguments start from the same premise: that the standard of living is a determining factor in regulating wages. The Massachusetts Commission believed that a state provision for old age would permit a reduction in expenses of the average workman by relieving him of the need of providing for his old age. The German view sees only the lessened income of the worker's family for present pressing needs due to the subtraction of the workman's share of invalidity and sickness premiums. An obvious difficulty of the first of these two views is that the workman is merely relieved of a need the pressure of which the average workman does not feel. Furthermore, this view entirely loses sight of the fact that the standard of living is itself elastic. Nothing is more probable than that the workingman, instead of accepting a reduction of wages because of these increased benefits to be enjoyed in the future, would regard them as a definite addition to his standard.

In case an attempt was made to reduce wages at the time of the introduction of a compulsory insurance system of old-age pensions, the probable result would be determined resistance on the part of labor. There would be no "psychological discount of future benefits" which would permit a reduction in the prevailing standards of "fair" wages. An illustration of the probable working of this psychological factor may be found in the strike at Lawrence, Massachusetts. The employers decided to reduce the wages of the men to correspond with the reduction of the legal weekly maximum of labor time from 56 to 54 hours. Instead of seeing that a reduction in their working time and in their productivity should naturally be accompanied by a decrease in pay, the men revolted against the proposal of the employers, with the final result of securing a considerable increase of wages. To be sure, matters were hopelessly bungled by the employers, who did not announce the reduction or attempt to prepare the employees for it at all, but allowed them to learn of it only by finding a shortage in their pay envelopes. The men naturally thought that they had been cheated, and were thoroughly aroused and united in their resistance.

Another illustration is found in the introduction of the compulsory old-age-insurance system in France. Attempts to deduct premiums from the wages, according to the provisions of the law, were everywhere met with resistance by the mutualists and syndicalists, and it was found that there was no way to enforce the payments. The legal situation respecting the right and duty of employers to subtract such premiums was hopelessly obscured by the uncertainty of administrative action and the absence of court decisions.¹

After the system had been in force for some time, it would be impossible to distinguish between the effects of deduction

¹Cf. *Zeitschrift für die gesamte Versicherungs-Wissenschaft*, XII. Rundschau, columns 449-50; 676, 1303-04 (1912).

of premiums and of other causes of low wages, and it might be sought to defer an increase in wages because of the burdens of insurance. It is improbable that laborers would be willing to defer increases or make less strenuous efforts to secure higher wages on account of any psychological attitude toward the benefits of insurance. The psychological attitude would rather be that of including the insurance benefits in their minimum standard. The same efforts would be made to secure better terms of bargaining, and the success of these demands would not be influenced by any lack of coöperation due to a psychological reluctance on the part of striking workmen to insist on "too much." The concept of "too much" or "more than is reasonable to demand" would probably not take into account payments made for insurance against accidents or old age, but would rather be based on the cost of living and the various items of expense. It does not seem likely that there would be a psychological influence in the direction of a decrease in wages.

A distinction may be made between the positions of the skilled and the unskilled worker. A skilled workman would be more likely to feel that the employer was justified in reducing wages a little on account of the extra burdens of insurance. He makes provision for himself more frequently than the unskilled worker. His range of employment is more limited in direct relation to the degree of specialized skill which he exercises, and consequently he has not a wide field of choice of employments. On the other hand, skilled men are more strongly organized in trade unions, and have relatively more power in case of a strike. Even here, the psychological attitude of the workmen is of very great importance in maintaining the spirit of a strike and in securing what they consider to be reasonable demands.

Unskilled workers, though comparatively less well organized, enjoy a wider range of possible employers. For

workers not in unions, the psychological estimate of what is a fair or "living" wage is about the only basis of a minimum wage rate. It is much more difficult for unskilled laborers to act together, but when aroused by an "unfair" reduction of wages coöperation is secured. Unskilled workmen would probably refuse to consider a future old-age pension as any justification of a reduction of wages, and in periods of increasing cost of living would not be influenced by the arguments of employers to consent to a postponement of increases of wages. The wider market for unskilled labor would make reduction more difficult.

Influences affecting adversely the demand for labor in the event of the introduction of a system of insurance would be the emigration of capital to other states or the failure of enterprisers. The chief arguments that wages will be reduced are based on the presumed effect on business enterprises.

The introduction of accident compensation involves weighting different branches of industry in proportion to their industrial risks. Accident compensation is levied as a percentage of the wages paid and varies with the degree of hazard. Will there be a lessening of the demand for labor in the more hazardous industries such as to produce a reduction of wages in them proportionate to the extra weight of their accident costs? It will be convenient to treat the question of this purely differential effect of the burden of accident insurance before coming to the question of a general lowering of the wage level due to the cost of social insurance in general.

To argue that wages will be reduced in proportion to the weight of the burden imposed is to assume that wages are now paid in some measure according to the risk. For if wages are not adjusted to the risk, but are ordinary competitive rates for labor of the desired degree of skill, an attempt to lower wages below the competitive rates will

be difficult. If no differential wages are now paid, it is hard to see how any differential effect on the remuneration of labor will take place as a result of the imposition of accident burdens. Only where men are now paid higher in dangerous trades than in the safer ones can a reduction in wages be effected without forcing labor into other employments; and then only if labor is content to remain in the dangerous trade on this basis. Differential reduction of wages can take place only to the extent that labor is willing to accept less on account of workmen's compensation. Differential wages depend essentially on the movement and on the demands of labor. The imposition of an extra burden in some trades will not reduce wages in those trades in proportion, but will appear rather in an effect on the general wage rate. The hazardous industries will accommodate themselves to the general price of labor.

Many of the most hazardous industries are purely local. Construction work, the building trades, tunneling and underground construction, railroading, are all strictly localized. A building needed in New York city cannot be erected except under the laws of the state of New York. The higher cost of construction cannot be evaded; buildings will have to be erected under the new conditions, and there will be little or no decrease in the demand for labor necessary for their construction.

The effect of social insurance upon industry has already been discussed. How much will the effective demand for labor be reduced? The effect on capital and enterprise representing demand for labor varies with the nature and position of the industry. An industry which is in no danger from competition either because of monopoly privileges or because of great advantage of situation, of efficiency of labor, or of general efficiency, etc., will not be seriously threatened by the cost of insurance. Industries producing for a local market will be unaffected by competition. Employers in these trades will be inclined to accede to the de-

mands of employees. Where employers control the price of the products, especially if the demand is inelastic, there will be no reduction in the demand for labor or in wages. In industries where it is possible to meet a new cost by curtailments in expenses, there will be no change in the demand for labor unless the reduction in cost takes the form of the introduction of machinery or labor-saving devices. In this case there might be a decrease in the demand for skilled labor or a shifting of demand to unskilled labor. The immediate change would depend on whether the machine or process introduced required more or less specialized skill. If the saving in cost should more than offset the burden of insurance the effect on the demand for labor in the long run would depend on the nature of the industry and the expansibility of the demand for its products. If a large part or all of the increase in cost due to insurance can be met by reductions in expenses secured by means other than the introduction of labor-saving devices, a decrease of wages is not to be feared. Where the industry has a large amount of fixed and specialized capital which must accept a reduction of value as a result of the new system, it will usually be profitable to employ as much labor as before. In so far as marginal producers or marginal industries are affected, or industries which suffer from severe competition from without the state, they may be forced to go out of business or move to a neighboring state. In such cases there will be a reduction in the number of men employed, or workmen in these industries will submit to a reduction of wages as a necessary alternative.

If the industry cannot survive unless reductions of cost are made, and if the only possible reduction is in wages, the workmen may be induced to accept an actual reduction in preference to seeking a new employment. Unskilled workmen would probably fare better in these circumstances than the more specialized workmen, because of the larger field in which the former can sell his labor. Reductions in

employment may appear only in unemployment or may tend to affect the rate of wages, and will be temporary or permanent depending on whether or not the attractions for new enterprise are undiminished. The principal change in the attractiveness of the state for new investors would be the burden of insurance premiums. If this were offset by reduction of wages there would be no diminution of attractiveness; if the advantages of the state for industry in certain lines were still sufficiently great to offset any "burden" of payments, there would be no change in the willingness of capital to seek investment there. In so far as new investments are not reduced there would be no permanent lessening of the demand for labor.

New demand for labor arising as a result of the diversion of the income stream to the pensioned workers would have no appreciable effect on the demand for labor within a single state; and the accumulation of capital under compulsory insurance would have an appreciable effect on labor within the state only if locally invested in ways not appealing to the ordinary capitalist.

The extent of the hypothetical changes in demand for labor must depend in last analysis upon the importance and weight of the burden imposed on the employer and capitalist. Even if the most extreme case is considered,—where a single state adopts suddenly social insurance to the full extent,—the burden which cannot be otherwise met is so small that it would have a negligible effect when compared to the other conditions determining the advantages of the state for industry. Where already a considerable item of cost for accidents has been imposed on employers by employers' liability laws, where there is a similar item in neighboring states, and where the purpose of insurance legislation is merely that of leading the way to a more complete provision covering all of the contingencies considered, there is even less ground for a fear either that industry will be injured or that labor will suffer in reduced

wages. If a system covering the entire country is adopted at one time, there will be yet less to fear. Emigration of capital and enterprise cannot take place from the nation with the same absence of friction as from one state to another; tariff conditions and the safety and control of investment are much more decisive factors than the "burden" of social insurance.

CHAPTER IX

EFFECT OF INSURANCE UPON THRIFT

What will be the effect of social insurance upon thrift? How will it affect the private accumulation of means to provide for the contingencies of life? It is an argument frequently made that the grant of aid by the State and the requirement that employers shall contribute to pensions for their employees will lead to a melancholy state of dependence among the latter and will encourage thriftlessness. Workmen will feel, it is urged, that they will be cared for in case of accident, sickness, and old age and will make no special effort to help themselves. They will depend more and more on the State and on efforts made for them by others; they will grow less and less independent, and this will ultimately appear in and mean a great increase in the cost of poor relief. The grant of old-age pensions is regarded simply as poor relief in another form. On the principle that a nation will have as many poor as it chooses to pay for, a general opposition to all measures of social insurance or of pensions is based. These claims and arguments deserve to be examined. If any disastrous effect on thrift or on the ability or will of the average workman to take care of himself is to follow the adoption of social insurance, this would be reason enough in itself to refuse to adopt it.

In the nature of the case these questions turn on the distribution of cost. There is no intimation here that the accumulation by workingmen of savings to provide for old age is not desirable; it is granted, rather, that adequate provision is or should be the highest aim for society. Such provision "undermines the independence" or the "spirit of thrift" of the workman only when the funds come from

another source, where part or all of the cost is laid on employer and industry, where the State contributes generously, and especially where the State grants a straight pension without levying any portion of the cost on the workers pensioned.

This general argument applies especially to social provision for old age. Accumulation of savings to meet the risks of accident is often useless; the costs of sickness do not necessarily require a long period of saving. But the accumulation of savings or of property is absolutely necessary if the workman is not to be dependent in his old age. The consideration of the question in this chapter will therefore be confined chiefly to the effects on thrift of the various ways of providing for the aged members of society.¹

The great danger with any measure of social legislation that bears in any way upon pauperism is that in some unforeseen manner the very provision that seeks to lessen or alleviate poverty and distress may actually increase it. The well-known statute by which rates of wages in England that were insufficient for supporting families of certain sizes were supplemented by subsidies from the poor rates did not alleviate pauperism, but, by encouraging factory employers to give low wages, and by an increase in the size of the family, defeated its own ends.

A system of compensation for injuries will defeat its ends to the extent that it causes an increase of accidents.² Public care of the sick ought to result in a decrease of sickness. A sickness insurance measure has to provide methods of controlling the claims for sickness pay and for preventing attempts to defer recovery. Independently of the question of individual provision of sums for meeting the expenses of sickness, a strong argument can be made in favor of a public

¹ For the relation between social insurance and poor relief expense, cf. Woodbury, *Social Insurance, Old Age Pensions, and Poor Relief*, in *Quarterly Journal of Economics*, XXX. 152-171 (1915).

² This subject will be briefly treated in the following chapter.

campaign against sickness, on the ground that the benefit to the public would more than justify the necessary expenditure. Sickness insurance, by spreading information and extending medical care to those who could not otherwise afford it, by providing methods of meeting the cost of a campaign against sickness of all kinds, and by equalizing the burden of sickness among workingmen's families might itself be a valuable method of attack.

But in case of the economic problems of old age, elimination of the aged by the Osler method being unthinkable, it remains to provide for their needs as well as possible. With the increase in the average length of life the proportion of the population which lives to advanced age is increasing. At advanced age the abilities and opportunities of workers to earn money are seriously reduced. Here it is a question of thrift. Thrift must have been exercised in the years prior to reaching the age of dependence to safeguard against the poorhouse.

Whether or not old-age pensions are to be looked upon as poor relief in another form is immaterial to the point under discussion. It can be argued, perhaps, that the worker who has spent the best part of his life in developing the resources of the country is entitled to be cared for in his old age. The cost may possibly be justified on this ground. But the question under discussion is whether the effect would be to increase the dependence of aged workers, to make the proportion of aged who need pensions greater, or, in other words, to lessen the thrift which each worker exercises for himself during his years of employment.¹

Is it necessary to hold before the working population the prospect of an old age of misery, want, and shame as the penalty for lack of thrift? Will a more generous treatment

¹ The control of the age of pension claimants is simple where there has been for a long period complete registration of births. Otherwise there is danger of fraud or misrepresentation in statement of age. Cf. note on Ireland, *supra*, 22.

of the aged mean a lessening of the motives of accumulation of savings among the working classes?

Thrift may be defined as a habit of mind which seeks to reduce expenditures for present purposes to a minimum. It seeks to widen the margin between the standard of expenditure and the income received, and there is usually but not necessarily some definite object toward which the savings or accumulations are to be devoted. The exercise of thrift depends on the strength of the motives leading to the exercise of it compared with the intensity of the wants needing present satisfaction. The intensity of present wants depends further on the requirements of the standard of living and the possibilities afforded by the amount of income. Accumulation of savings does not mean that the sums saved will be applied to the purpose for which they were originally intended. For other wants may continually arise and demand satisfaction; it depends on the degree of persistence and resolution on the part of the saver, whether the exercise of the original self-denial will ultimately result in his reaching the goal towards which he started. The exercise of economy, to be effective, must be carried out with continuity of purpose; thrift must become a habit.

A wide margin between the standard of living and the income received makes the exercise of thrift easy. Immigrants who have brought with them the standard of living enforced on them by the more severe conditions of the old country find it easy to accumulate savings. Large sums of money are sent home annually by Italian, Hungarian, and Greek immigrants. The Chinese have no difficulty in accumulating large amounts from their wages, because their standard of expenditure is low. In some savings banks in our eastern cities it is thrifty foreigners who hold a majority of the deposit accounts. The standard of living of the American workman is more closely adjusted to the wages received, and he finds it more difficult to make any accumulations from his earnings. These differences grad-

ually disappear as the standard among our immigrants and their descendants grows to meet their earnings.

A powerful motive or a ready means of profitable investment encourages thrift. The willingness to exercise self-denial is, for example, probably much strengthened when a father is trying to send a son through high school or college. Saving among Armenian immigrants is probably encouraged by their desire to become independent. Men who started as bootblacks or shoe-repairers now have well-kept shops filled with machinery and do a thriving business. Greek immigrants acquire and develop confectionery stores. Undoubtedly such openings for business investment give an impetus to the accumulation of the necessary capital.

The fundamental conditions of thrift are essentially different in the working classes and in the middle classes. The possession of the economic virtue of thrift, of the psychological characteristics of ability to see and to develop an opportunity for investment and to invest wisely, together with the continuity of purpose that is requisite in accumulating a sum for a specific end, will probably place a man in the middle class. Men beginning as workers will be able under free conditions of enterprise, especially in a young country, to rise to independence. Those left in the working class as permanently dependent will very likely be those who lack these qualities.

The exercise of thrift does not necessarily lead to the accumulations of saving or to wise investment. Italians from the various sections of Italy living in Worcester, Mass., spend large sums of money every year in pyrotechnic displays in honor of the patron saints of their districts, each section in a spirit of emulation desiring to outdo the others in the brilliancy of the display. There is surely the collective exercise of thrift, but it is applied to a useless purpose. An individual workman may succeed in getting a little ahead of the game by accumulating a small sum. Then a clever book agent persuades him to part with the hard-earned

savings. Such as these have neither the fixity of purpose nor the capacity of judicially weighing the importance of different possible expenditures necessary to make the exercise of thrift avail for a purpose set far ahead in the distant future.

There are many who fall below the level of those who are inclined or able to exercise thrift. Some are positively improvident. Their income is spent before they have received it. They may have borrowed money of loan associations and may never have succeeded in getting the debt paid off. Where improvidence is coupled with the drink habit or with aversion to labor, these persons sink easily into the pauper class.

The conditions of thrift vary with the period of life of the workingman. Before marriage earnings exceed expenses by a safe margin. After marriage comparative prosperity continues until the arrival of the second or third child. The pressure of present wants is especially heavy during the years of married life when the family is still wholly dependent on the earnings of the father. Conditions become easier from the time when the first child begins to earn; when the last of the children is earning money conditions are easiest. This period of comparative ease is followed by difficulties that begin with the decline of the earnings due to the infirmities of old age.¹ The exercise of thrift for the purpose of providing for old age will be most difficult during the period of greatest pressure of wants.

Providing for old age or for any need of the distant future is rendered difficult by the variability of income. So long as income is regularly earned, some savings may perhaps be made. With periods of unemployment, sickness, or injury, the difficulties of continuing accumulation are insurmountable; the family must live on the savings already made. For these reasons the absence of savings does not necessarily imply improvidence. Only with provision

¹ Cf. Rowntree, *Poverty, A Study of Town Life*, 136-7.

made for accident, sickness, etc., does effective accumulation for old age become possible.¹

What will be the effect on thrift of the different methods of providing for old age by social legislation? Thrift will be affected by either weakening of the motives to saving or lessening of the ability to save. The only motive to save that would be affected by social provision for old age is the desire to make independent provision for old age. The reduction of this desire can obviously have weight only to the extent that the desire itself is effective, only, that is, to the extent that provision for the years of dependence is actually made by the working class by thrift at the present time. Social legislation, on the other hand, would diminish the practical possibility of exercising thrift only to the extent that it reduced wages.

There are three principal ways in which governments have tried to solve the problem of destitution in old age. They have sought to encourage and stimulate thrift. France and Belgium have established old-age-pension institutions, which offer definite pensions in return for a given amount of deposits. These institutions afford a safe place of deposit and encourage saving for the definite purpose of providing for old age. Deposits once made cannot be withdrawn and used for other purposes. More immediate demands cannot make inroads upon the funds accumulated for the last years of life. Workmen have been encouraged to deposit in the institutions by the grant of subsidies.

¹ Cf. the statistics of the Massachusetts commission on the aged poor population of the state. The percentage of those who had property above debts at any time was 37.9. The percentage of property holders who sustained losses was for all classes 56.1; of almshouse inmates, 97.4. "Among the causes of property loss, extra expenses on account of sickness and emergencies show an average percentage of 60.1; business failures and bad investments come second, with 25.4; intemperance and extravagance stand third, with 6.2; while fraud and fire claim 5.1 and 3.2 respectively." *Report of the Commission*, 57.

An adverse effect on thrift in general can scarcely be attributed to a measure which encourages or places a premium on the exercise of thrift. There is no reason to think that the offer of such subsidies would cause a growth of dependence or thriftlessness among the working population. The receipt of a subsidy is always conditioned on the deposit of a certain minimum amount. The exercise of thrift by the workingman himself is prerequisite to his receiving a subsidy. The effect of the grant of a subsidy is no different in its psychological appeal from an increase of the interest rate. But the chief value of the grant of government aid, possibly, is of an advertising nature: it brings home to the workingman the need of making some provision for his later years.

Far from discouraging thrift, these measures have met with a certain success in encouraging and stimulating it. The Belgian government has given liberal subsidies to depositors in the old-age institution since 1900. Subsidies were granted equal to three fifths of the yearly deposits under 15 francs, with a maximum of 9 francs per account per year; for those over forty, the maximum aid was set at 14.40 francs. In 1903 the yearly allowance of the state was increased for the higher age classes. At the same time agitation was carried on in the schools to encourage children to deposit their savings. The total number of depositors in the Belgian institution rose from 169,000 in 1899 to over a million in 1910.¹

Some of the savings thus deposited in the old-age institutions represent merely transferences from other places of deposit. In the early years of the French institution the rate of interest was usually above the market rate, and the deposits were made chiefly by the middle classes.² A

¹ Rubinow, *Social Insurance*, 342.

² *Workmen's Insurance and Compensation Systems in Europe*, in *Twenty-fourth Annual Report of the Commissioner of Labor*, I. 834-35 (1908). The law of 1886 permitted an annual adjustment of the rate of interest paid by the institution to the market rate.

requirement in the Belgian pension law of 1900 that persons who were from 55 to 58 years of age on January 1, 1901, must prove that they had deposited a certain minimum sum in the old-age institution in order to qualify for the state pension granted on reaching 65, caused a large increase in the deposits of this age group. Part of the savings so deposited may have been transferred from other places, as the easiest method of satisfying the law.² For the rest, the increase in the number of depositors and the amount of deposits can be taken as evidence of more adequate realization of the necessity of saving.

The second method of social provision for old age is that of compulsory insurance. What effect does this have on the thrift of the working classes? To the extent that the workingmen themselves contribute, it not merely encourages but it compels thrift, and secures the effective saving and accumulation of sums for a definite end. It reinforces the desire to save by making saving compulsory. And the effect on the will to save would further be rather to stimulate than to retard it. The weekly reiteration of the deductions for future contingencies keeps before the minds of the workers the idea of saving for a definite purpose, and the desire to supplement the amounts to be received may easily encourage further accumulation. Those who would save anyway would not be induced to lessen their savings; while a large number would be compelled to save, who otherwise would never have thought of saving or would not have given serious thought to it.

The excess of the workingman's income over his expenditure may be reduced by the amount of the deductions from wages or by the amount of whatever decreases in wages may result from the imposition of the burden upon the employers. The loss in present wages can be no greater than if the entire sum were levied on the worker in the first

² *Twenty-fourth Annual Report of the Commissioner of Labor*, I. 511, 521.

instance. But the sums deducted from the wages are definitely saved. On the average, more is saved in that way than under ordinary conditions. The margin of surplus for further saving may be somewhat reduced, but the desire to save further is stimulated rather than satiated by compulsory insurance. Industrial insurance for workmen has increased very greatly in Germany since the enactment of workmen's insurance.¹ The educative value of social compulsory saving can scarcely be overestimated.

The Swedish compulsory insurance act requires all sums to be paid by the insured person. The German act places part of the cost on the employer. It is difficult to see how the fact that a large part of the cost is laid on the employer and the State could foster a spirit of dependence among workmen. Surely it would not cause any lessening of individual thrift. Compulsory insurance means in fact a considerable increase of thrift among the working classes. The entire earnings of workers are paid by employers in the first instance, and how it could increase the feeling of dependence to understand that employers contribute additional sums for the purpose of defraying the cost of pensions for infirmity, old age, and accidents is not clear. If any such feeling developed, it would be due only to a realization that employers were contributing sums that were gratuitously given, over and above what workmen were entitled to. Does a workman whose employer generously raises his wages above the market level, feel more dependent than before? He may be grateful for the increase, but usually he probably feels in his heart that he deserved it. That the sums given for pensions are more than the workers are entitled to may be "realized" by employers. The establishment of compulsory insurance would lead sooner to a realization on the part of workers that the employer ought to contribute, than to a feeling of dependence that would be dangerous to the State.

¹ Cf. Lass and Zahn, *Einrichtung und Wirkung*, 218 (1900).

There may be some danger, to be sure, that the establishment of compulsory insurance may lead to an increase of the share of the burden which is laid on the employer. But demands for such an increase of the employer's burden would indicate a greater independence on the part of labor rather than a weak or dangerous subservience or inertia. It may be worth noting that the recent increase of the benefits for survivor pensions made in the revision of the German law of 1911 was accompanied by an increase in the contributions of workingmen. The Social Democrats refused to accept an amendment requiring employers to increase the proportion of their contributions to sickness insurance from one third to one half to avoid a corresponding reduction in the representation of workmen on the boards of administration of the sick funds from two thirds to one half.

Finally, the effect on thrift of a scheme of government old-age pensions remains to be considered. No contributions of any kind are required. Here, if anywhere, there will be an adverse effect on thrift. The difficulty in old-age-pensions legislation is that the thrifty are denied pensions and the unthrifty are given them; the dependent are favored and a premium is placed on the lack of thrift.

Pension legislation can affect the thrift of the working classes only through lessening the desire to save, and the effect will depend largely on the specific provisions of the law.

The saving habits of persons approaching the pension age may be disastrously affected. In Denmark, pensions are given at the age of 60 to persons who are needy and deserving, and the amount is measured by the degree of need. If the savings accumulated are large enough to debar the owner from qualifying for a pension there is a great temptation to squander them in the years before sixty. If the choice is between living on one's accumulations

on the one hand and enjoying one's accumulations prior to the age of sixty and living on a pension afterwards, there will be a strong tendency to use both the savings and the pension. If the pension is measured by need, there is little incentive to save anything. A tendency to enjoy savings would be specially manifest where the amount accumulated was not of itself sufficient to insure an income as large as the pension, though large enough to exclude the possessor from the right to the state allowance.

If the possession of property or income by an applicant for a pension does not disqualify,—in other words, if the exercise of thrift is not penalized,—no adverse reaction upon the thrift habits of the working population need occur. No country gives pensions to all without reference to their income. All sorts of special provisions are made to avoid the difficulty of penalizing thrift. The Australian law gives a pension up to £26 per annum to aged residents whose independent income does not exceed £52. The pension is graduated so that the whole income including the state allowance does not exceed £52 as a maximum. For every complete £10 of property by which the net capital value of the property exceeds £50, a deduction of one pound is made from the pension. From the capital value of the accumulated property is deducted the capital value of a home in which the pensioner permanently resides and all charges and encumbrances existing on the property other than the home. Accumulated property of £310 disqualifies. If an applicant directly or indirectly disposes of his property in order to claim a pension he also is disqualified. Benefits received from registered benefit societies, or benefits during illness, infirmity, or old age, from any trade union, provident society, or other society or association are not counted as income within the meaning of the act.¹

¹ *The Official Yearbook of the Commonwealth of Australia*, VII. 1044 (1914). Similar provisions apply in New Zealand. Cf. *The New Zealand Official Yearbook*, 892-93 (1912).

These exemptions avoid the danger of penalizing thrift. Savings which are made by the average workman will not lessen the pension to which he is entitled. Practically any provision that he might make is excepted; benefits from trade unions or mutual aid societies and accumulations invested in a home do not cause either lessening of the pension or disqualification. The line of division which the law seeks to draw is between the accumulations of the working class and those of the middle class. Thrift is still required of the members of the latter, who are better able to exercise it and among whom it is regarded as a prime virtue. The provisions of the pension law encourage thrift among the working classes by ensuring that their accumulated savings shall not affect the amount of their pensions.

The grant of old-age pensions would probably not cause a general diminution of thrift. Pension legislation would at most remove from the motives that actuate the workmen to save merely the desire of providing for old age. This desire plays but a minor part in saving among the working class. There is on the whole little saving for old age, as is shown by the large proportion of the aged population of England and Australia that qualify for pensions of five and ten shillings a week respectively. The argument that old-age pensions will destroy thrift assumes that the sole object of that habit of economy is to provide for old age. Economy may be practiced for many objects. Other motives for saving are not affected. The desire to provide education for one's children or to acquire a home would be quite as effective a stimulus to economy as before. A habit of economy is enforced by the conditions of life, and there is at best but little room for accumulation. The idea of pensions could not arise at all, were it not for the general lack of provision made by members of the working class and the poverty among such as reach old age. Pension legislation is enacted in simple recognition of the fact that thrift among the working class does not provide for old age.

No disquieting effect on the morale of thrift among the working classes is, therefore, to be feared. Government subsidies directly encourage it. Social insurance adds the compulsion that makes thrift effective. Old-age pensions may lead to an undesirable squandering of accumulations by the population just below the pension age on the part of those whose savings are not very large. If the possession of savings or income is discriminated against in awarding or in measuring the amount of assistance, a reaction against thrift may occur. With proper exemptions, however, this effect can be reduced to a minimum. In general, provision for old age does not seriously reduce the effective motives for saving. There are so many other contingencies which appeal more to the average workman, that if inclined and able to save, he will continue to lay by such sums as he can.

CHAPTER X

EFFECT OF WORKMEN'S COMPENSATION ON THE PREVENTION OF ACCIDENTS

The effect of accident compensation on the frequency of accidents and on measures taken to insure safety is of the greatest importance. The earlier doctrine, that it was the best public policy to have the employee bear the risk of the trade, rested not only on the inherent justice of it but also upon the belief that it was the best method of preventing accidents. It was held that only by placing the entire responsibility and loss on the workman injured would he use his best efforts to prevent accidents. On the theory that all accidents are caused by fault or negligence, what better way of lessening the frequency of accidents could be found?

This idea was quite subordinated, however, in some of the later developments of the doctrines of the common law. The insistence on the freedom of the employer from liability in cases where fellow servants were blamable, even though working in quite different occupations, left the question of preventing accidents out of account. The individual workman could exercise no control over either the choice or the action of his fellow worker. The doctrine of the assumption of risk was extended even to include cases where employers had neglected to repair machinery or install safety devices required by law, if the omission had not been reported and protested against by the workman. This doctrine carries to its logical conclusion the accident theory of common law liability: to prevent accidents, make the employee responsible. Nevertheless, from a common-sense viewpoint, these rules of interpretation seem to strain at a gnat—what the workman might have done to prevent

the accident—and swallow the camel—that the employer had failed to do what he was required by law to perform.

Workmen's compensation frankly puts the burden in the first instance on the employer. The employer must find means to shift the burden to other shoulders or pay it himself. One of the most obvious methods of reducing the cost of accident compensation is to prevent the accident. By placing the cost of the losses of accidents upon his shoulders a most effective inducement is given him to install all the best safety devices and utilize every means in his power to lower the accident rates. Probably a majority of employers do take "reasonable" care to avoid accidents; but charging them with the costs of accidents will nevertheless operate to produce a much more careful attention to their causes and prevention.

Placing the burden of cost on the employers does not take away from the workmen their interest in preventing accidents. The injured workmen still suffer. The pain cost falls entirely on them.

The history of labor legislation, and of safety regulations in particular, shows the relative power of employer and employee in preventing accident. Laws have required employers to live up to certain minimum regulations, to provide fire escapes, to install safety guards on dangerous machinery and other kinds of safety devices. Much still remains to be done. The law has recognized that the employees cannot always insist, in the wage bargain, on the adoption of safety appliances. From the time of the factory acts of England in 1802, legislation, including the limiting and the prohibition of child labor and women's labor, enforcement of decent factory conditions, shortening of the hours of work, etc., has recognized that the way to improve conditions of work is to hold the employer rather than the employee responsible.

What has been the actual effect of workmen's compensation on the frequency and cost of accidents?

Statistics of accidents are for the most part quite untrustworthy. In Germany, where the reporting of accidents takes place in connection with workmen's insurance, there are fairly satisfactory records of the more serious accidents. Since the introduction of such insurance in 1885, the rate of fatal accidents in industry per 1000 insured persons decreased from a maximum of 0.77 in 1887 to a minimum of 0.56 in 1910.

The frequency of accidents causing permanent disability has likewise decreased from a maximum rate of 0.73 in 1887 to a minimum of 0.03 in 1912. Part of this decline may be attributable to more careful classification of serious accidents. Accidents formerly assumed to be likely to cause total permanent disability and placed provisionally in the total disability column may have proved to be less serious. If a closer scrutiny and a more careful sifting of these cases now takes place some of the decrease may be accounted for. But this would mean a relative increase in the partial or temporary disability classes. It is probably true, moreover, that a substantial net decrease has taken place in the frequency of accidents resulting in total permanent disability.

TABLE I

NUMBER OF ACCIDENTS PER 1000 INSURED (INDUSTRIAL CORPORATIONS)¹

Year	Injuries Notified	Fatal	Permanent Disability		Temporary Disability	Total
			Total	Partial		
1886	26.91	0.70	0.45	1.10	0.57	2.83
1887	27.42	0.77	0.73	2.11	0.53	4.14
1888	28.04	0.68	0.43	2.38	0.85	4.35
1889	29.42	0.71	0.48	2.69	0.81	4.70
1890	30.38	0.75	0.38	3.26	0.97	5.36
1891	31.94	0.71	0.31	3.43	1.10	5.55
1892	32.49	0.65	0.30	3.56	1.13	5.64
1893	35.23	0.70	0.26	3.82	1.25	6.03
1894	36.37	0.65	0.16	3.82	1.62	6.25
1895	37.90	0.67	0.15	3.57	1.85	6.24
1896	40.69	0.71	0.10	3.53	2.38	6.72
1897	41.77	0.70	0.10	3.52	2.59	6.91
1898	42.89	0.73	0.08	3.54	2.75	7.10
1899		0.72	0.09	3.58	3.00	7.39
1900		0.74	0.08	3.58	3.06	7.46
1901		0.72	0.09	3.80	3.46	8.07
1902		0.64	0.08	3.76	3.58	8.06
1903		0.63	0.08	3.68	3.72	8.11
1904		0.63	0.08	3.68	3.92	8.31
1905		0.63	0.07	3.59	4.05	8.34
1906		0.63	0.07	3.49	4.07	8.26
1907		0.68	0.06	3.36	4.26	8.36
1908		0.67	0.06	3.26	4.37	8.36
1909		0.62	0.05	2.86	4.35	7.88
1910		0.56	0.05	2.54	4.24	7.39
1911		0.59	0.04	2.32	4.20	7.15
1912		0.65	0.03	2.32	4.32	7.32

¹ *Amtliche Nachrichten, Uebersicht I, XXX. 13.* There appears a considerable discrepancy between the figures as published in the annual reports and the revised figures. The revision adds a few cases to the fatal injuries, subtracts a large number from the cases classified at first as complete permanent disability, subtracts a small number from the rates for partial permanent disability, and adds materially to the number of those injured whose disability was temporary. See, for example, the following table (New York Bureau of Labor Statistics, *Seventeenth Report*, II. 763):

Accidents involving partial permanent disability increased steadily up to a maximum of 3.82 per 1000 insured in 1893 and 1894, remaining nearly constant till 1901 (3.80); since when the rate has steadily declined to 2.32 in 1912. The increase in the earlier years was probably due almost entirely to the better reporting of accidents. Workmen may at first have been ignorant of their rights in the matter of compensation. Part of the increase may further be due to the increased willingness of the authorities to grant compensation in the form of a small pension for minor injuries. The decline in the rate since 1901 is probably to be interpreted as due to increasing care in the prevention of accidents,—the effect of such preventive action having previously been masked by the increase in the proportion of accidents which were reported.

Accidents involving only temporary disability show a constantly increasing proportion, reaching a high point of 4.37 per 1000 in 1908. Since then the rate has remained nearly stationary. Probably most of the increase

INJURIES PER 1000 INSURED

Year	Total Injuries		Permanent Disability				Temporary Disability	
			Complete		Partial			
	Annual Reports	Re-vision	Annual Reports	Re-vision	Annual Reports	Re-vision	Annual Reports	Re-vision
1886	0.70	0.71	0.46	0.09	1.13	1.09	0.59	0.85
1887	0.77	0.79	0.73	0.13	2.10	1.92	0.54	1.24
1888	0.68	0.72	0.44	0.14	2.38	2.18	0.85	1.26
1889	0.71	0.75	0.49	0.13	2.70	2.45	0.81	1.37
1890	0.73	0.75	0.38	0.12	3.27	2.95	0.98	1.47
1891	0.71	0.74	0.31	0.12	3.43	3.12	1.10	1.57
1892	0.65	0.68	0.30	0.12	3.55	3.17	1.14	1.67
1893	0.69	0.74	0.27	0.12	3.82	3.11	1.25	2.06
1894	0.66	0.69	0.16	0.12	3.82	3.23	1.61	2.20

is again only apparent, depending on the higher proportion of accidents resulting in claims.¹

A decrease in the cost of accident insurance is an index of a decrease in the accident rate. There has been a marked decrease of the cost in many industries. The assessment in bridge construction (other than iron) declined from 3.07 per cent of the wages in 1895 to 2.32 per cent in 1908. The rate in candy factories fell in 1908 to slightly over one half of the rate in 1893. The cost of accidents in railroad construction (excluding tunneling) in 1908 was only half the rate of 1890. In electrical apparatus (telegraph, telephone, etc.) factories the cost has likewise been cut in two. A rate of 0.85 in 1893 in the glove factories has been reduced to 0.16 in 1908. Other reductions in cost are shown in Table II. A decline in the rates of assessment in these industries is the more noteworthy because of the normal tendency of the rates to grow on account of the method of assessing simply the cost of current pensions.²

¹ "The general increase in the *total number* of accidents as stated in official reports, is accounted for,—according to the competent authority of the Reichs-Versicherungsamt,—by the following circumstances: (1) A better control over the notifying of accidents; (2) The necessity of hiring unskilled and untrained labor (especially in the building trades) in consequence of the sudden development of industry; (3) The increased application of machinery in industry and, still more, in agriculture, which, again are [is] in many instances served by inexperienced hands; (4) The better acquaintance of the working class with insurance law, in consequence of which its assistance is being applied for more frequently than formerly; (5) The interpretation of the meaning of 'Betriebsunfall' (accident arising out of or in the course of employment) by the Reichs-Versicherungsamt in the liberal spirit of modern legislation; this leads to more frequent declaration, especially of minor accidents." Pinkus, *Workmen's Insurance in Germany*, in *Yale Review*, XIII. 80 (1904-05).

² Cf. *supra*, 56, note.

TABLE II

DECLINE OF ACCIDENT ASSESSMENTS IN GERMAN EMPLOYERS' MUTUAL
ACCIDENT ASSOCIATIONS

Industry	Percentage of payroll		Rate in 1908
	Rate in the Year Specified (Maximum)		
Bridge construction (other than iron)	3.07	1895	2.32
Brickmaking (by hand)	1.05	1902	.70
Candy factories	1.03	1893	.55
Carpentry:			
(a) Cabinet making (power)	2.14	1902	1.93
(b) General contract	3.07	1895	2.32
Carriage factories	1.45	1903	.84
Casting works:			
(a) Iron, without power	1.84	1904	1.42
(c) Metal	1.00	1902	.88
Celluloid factories:			
(b) Articles	1.47	1893	1.06
Cleaning establishments (chemical)	1.14	1901	.68
Clothing factories . . . . .	.21	1894	.14
Coking plant	3.00	1905	2.42
Construction:			
(a) Railroad, excluding tunneling	4.64	1890	2.30
Drayage, riggers and heavy movers	6.15	1903	4.94
Electrical:			
(b) Installation of same (machinery plant)	2.07	1902	1.58
(c) Apparatus (telegraph, telephone, etc.) factories . . . . .	.88	1894	.44
(d) Installation telegraphs, telephones, etc.	2.07	1902	1.58
(e) Lighting and power establishments	1.71	1902	1.10
Enameled-ware factories	1.24	1903	1.05
Furnaces:			
(c) Crucible	2.39	1904	1.42
(d) Puddling	1.74	1894	1.42
Furniture factories:			
(a) Wood	2.14	1902	1.93
Glove factories . . . . .	.85	1893	.16
Housesmithing	1.90	1892	1.36

TABLE II—*Concluded.*

Industry	Percentage of payroll		Rate in 1908
	Rate in the Year Specified (Maximum)		
Paper factories:			
(a) Envelope.....	.53	1901	.44
Quarries:			
(c) Slate.....	2.27	1889	1.36
Railways, electric.....	1.78	1893	1.02
Rolling mills:			
(b) Heavy products.....	1.84	1904	1.42
Rubber and gutta-percha manufacturing	1.47	1893	1.06
Safe, etc. factories:			
(a) Iron safes.....	1.32	1903	1.03
(b) Iron furniture.....	.60	1892	.44
Sewing-machine factories.....	.52	1894	.35
Slaughter houses.....	1.32	1893	1.18
Steamships:			
(b) Ocean.....	2.67	1899	2.47
Street cleaning.....	.77	1903	.54
Tinsmithing.....	1.90	1892	1.36
Tobacco factories (smoking tobacco factories with motor).....	1.75	1901	1.04
Tool makers.....	1.76	1903	1.62
Tunneling:			
(a) Ordinary.....	8.34	1890	2.79
Warehouse and storage.....	2.81	1888	2.52

From table, *Bulletin of the Bureau of Labor*, XXI. 778-783 (1910).

Statistics of the causes of accidents, as shown in Table III, throw some light on the question of its prevention.

TABLE III
RESPONSIBILITY FOR INDUSTRIAL ACCIDENTS IN GERMANY¹

Cause	Percentage of all Accidents Due to Cause Specified in:		
	1887	1897	1907
Fault of employer.....	20.47	17.30	12.06
Fault of injured employee.....	26.56	29.74	41.26
Fault of both employer and employee .	4.61	4.83	0.91
Fault of fellow-employee.....	3.40	5.31	5.94
General hazard of industry.....	44.96	41.55	37.65
Other causes (chance, etc.).....	.....	1.27	2.18

¹ Rubinow, *Social Insurance*, 74.

In interpreting the figures of Table III a most striking fact is the decrease in the percentage of accidents due to fault of employer from 20.47 in 1887 to 12.06 in 1907. The system of compulsory accident insurance, introduced in 1885, placed all the cost on the industry. Analysis of the accidents due to fault of employer gives the distribution shown in Table IV. The percentage of the total accidents due to absence of safety appliances has shrunk from 11.03 in 1887 to 4.69 in 1907. The influence of the imposition

TABLE IV
ACCIDENTS DUE TO THE EMPLOYER'S FAULT²

Accident Due to	1887	1897	1907
	Per cent	Per cent	Per cent
Defective apparatus.....	7.28	7.15	5.40
Absence of safety appliances	11.03	7.82	4.69
Absence of proper regulations	2.16	1.84	1.97
	20.47	16.81	12.06

² Ib. 75.

of the cost on the employer can be clearly seen in these figures.

A noteworthy decline is shown also in the percentage of accidents due to the general hazard of industry. This decrease may be due to better regulations and may probably also be ascribed in some measure to the employer's liability for the cost of accidents.

The percentage of accidents caused by the fault of the injured employee has shown a great increase during the period, rising from 26.56 per cent of all accidents to 41.26 per cent. This increase may be due partly to the increase in proportion of cases reported where the workman was injured by his own fault. Workmen may not have known so generally in 1887 that they would be entitled to compensation for accidents caused by their own fault as they did in 1907. These figures, if they mean that the workman is becoming less careful or less disposed to prevent accidents, suggest a serious criticism of social insurance.

TABLE V

PERCENTAGE OF INDUSTRIAL ACCIDENTS DUE TO CAUSES CLASSIFIED AS FAULT OF EMPLOYEE, BY NATURE OF FAULT¹

Accident Due to	1887	1897	1907
1. Lack of skill, inattention, etc.	17.09	20.85	28.96
2. Failure to use existing protective appliances.	1.82	1.92	2.22
3. Actions contrary to existing regulations.	5.35	5.44	9.48
4. Actions of horseplay, mischief, intoxication.	2.05	1.19	0.55
5. Unsuitable clothing (aprons, neckties, etc.) . . . . .	.25	.49	.05
	26.56	29.89	41.26

¹ Rubinow, *Social Insurance*, 76.

Accidents caused by the fault of the employee are distributed as shown in Table V. The total increase in the percentage of accidents due to fault of injured employees was about 14.7 in the twenty-year period. The percentage of accidents due to lack of skill, inattention, etc., increased by nearly 12. The percentage of accidents due to actions contrary to existing regulations increased by slightly over 4, while the percentage for actions resulting from horse-play, intoxication, etc., decreased from 2 to 0.5.

The great increase in the percentage of accidents due to inattention, lack of skill, etc., and to some extent to actions contrary to existing regulations is to be attributed, as Rubinow points out, to the increase of speed and of fatigue in modern industry.¹ Part of this increase, however, may be due simply to a greater degree of completeness in returning reports of the minor accidents resulting from inattention. Studies of the accident rate by the hour of the day and by the day of the week show that the accident frequency increases in the forenoon, falls off after the noon period, and rises again in the late afternoon; and that accidents are most frequent on Monday, Friday, and Saturday. Fatigue seems to have a considerable effect on the accident rate.

With these two explanations of the increase in the proportion of accidents in which the employee was at fault—*i.e.* the statistical, that a larger proportion especially of minor accidents are now reported where the employee was responsible, and the psychological, that it is due largely to inattention, lack of skill, etc., caused by increased speed and fatigue,—there remains no ground for any fear that workmen are becoming criminally careless under the “demoralizing effect” of workmen’s insurance.

The frequency of accident has been materially diminished in Germany under workmen’s compensation. But in other countries under other conditions the accident rate has also

¹ Rubinow, *Social Insurance*, 77-82.

declined. Comparable statistics of the trend of the frequency of accidents are not available. English figures showing the decline of the mortality from accident are not quite comparable because they include not only those fatal accidents arising out of the course of employment but all cases of death by accident. The "safety first" movement is not necessarily dependent on a peculiar form of accident insurance. Safety legislation may effectively reduce the possibilities of accident in the absence of workmen's compensation. Nevertheless, the imposition of the entire burden of cost upon the employer in such a way that he can diminish it by reducing the danger in the establishment must add to the efficacy of safety legislation. In efforts to reduce industrial accidents forms of organization and administration are important. Where responsibility for enforcing safety laws is placed in one branch of industry with a commission and in another with an industrial board, where inspectors of competing insurance companies make guesses as to the classification of a given factory in a risk group, there is a complete disorganization of the administrative machinery for preventing accidents. The reports of factory inspectors have nothing to do with the classification of the employer by the insurance company; their activities are confined to the enforcement of special factory legislation. Conditions of competition among insurance companies may lead one to accept a poor risk after another has rejected it. The employer does not feel any particular interest in lessening the losses of the insurance company and, having once paid his premium, is not inclined to lay out more money in the interest of mere safety.

The organization of accident prevention in Germany concentrates responsibility and the cost upon mutual employers' associations. Inspection of factories and classification in risk groups is made by these mutual corporations. The inspection is made with a view to the assessment of cost. The associations have power to issue accident regulations,

which, when approved by the Reichs-Versicherungsamt, become binding upon all employers in the association. Accident regulations are framed by persons in the business who are looking for a chance to save money by reducing the expense of the burden of unnecessary injuries. Installation of safety machines and appliances and the planning of factories with adequate floor space are made matters of pecuniary importance by placing the cost of accidents on industry. Unsafe establishments are penalized with a heavier rate. Furthermore, the active coöperation of the workmen is secured. Representatives of the workers are consulted with reference to new regulations, and inspectors representing labor help to see that the workmen observe the rules. Complete statistics of the causes of injuries are obtained and full knowledge upon which to base effective preventive regulations is at hand. The entire organization is admirably adapted to securing effective safety conditions in industry, and an essential feature of it is the imposition of the burden of cost upon the industry.¹

¹ Though somewhat aside from the question of an increase of accidents and more concerned with purely medical matters, the alleged prevalence of "accident neurosis" and the increase in length of time of recovery in certain cases of injury may be briefly discussed. Professor Bernhard in his *Unerwünschte Folgen der deutschen Sozialpolitik* tried to show a serious moral decay among the working class in increase of simulation, pension hysteria, in the organized method of pressing claims for pensions through certification of injuries by "workmen's" physicians, and in systematic appeal of cases through their own attorneys, etc. Bernhard's conclusions as to these evils were sweeping and were based on medical opinions rather than on statistical evidence. Medical opinion of the prevalence of accident neurosis is divided. The only valuable statistical evidence on the question was discarded. This evidence shows that the occurrence of such neurosis is quite negligible.

Evidence as to an increase in the average length of recovery from certain injuries seems to be better substantiated. Fassbender and others show that the longer period of convalescence is due to "more careful observation of cases and is really desirable. Laborers are no longer allowed to return to work before complete recovery." (Gannett, *Bernhard's Unerwünschte Folgen der deutschen Sozialpolitik and its*

Critics, in *Quarterly Journal of Economics*, XXVIII. 561-569. 1914). As for efforts made by workmen to secure compensation if they are entitled to it no complaint can be made. All that is required is a careful sifting of the unreasonable from the reasonable claims. The statistics of the cases of appeals show that a large proportion of them are refused. Where the amount of compensation for injury is fixed by the head of the employer's mutual accident association or his representative, some form of appeal must be provided for the workman. The figures showing the reduction of the number of serious accidents and especially the reduction of cost in many industries point to the really significant facts.

Cf. Gannett, 561-578, and the references there cited, especially Hitze (Fassbender), *Zur Würdigung der deutschen Arbeiter-Sozialpolitik. Kritik der Bernhardschen Schrift: Unerwünschte Folgen der deutschen Sozialpolitik*.

CHAPTER XI

CONCLUSIONS

The consideration of the question which was raised in an early chapter and deferred until the economic incidence of the burden and the effects of the burden of cost upon industry and wages had been studied may now be resumed. Do the advantages of social insurance outweigh the disadvantages? Is there such a balance in favor of a policy of compulsory insurance as to justify the imposition of the necessary burden of cost upon industry?

The positive advantages are clear and important. Compensation for the injuries and deaths caused by accident removes from the shoulders of the injured man and his family the severe economic losses for which in the majority of cases they are not responsible. Workmen's compensation eliminates the wastes of the present system of employers' liability and gives adequate compensation at a reasonable cost. Compulsory insurance against sickness protects the workman against the disastrous consequences of a temporary or complete stoppage of income. Provision for old age makes the lot of the aged workman free from anxiety and from the shame of the poorhouse. Conditions of life are made more secure and the individual is protected against the principal contingencies which are likely to precipitate those who are affected below the line of decent or adequate subsistence. Insurance reduces the unevennesses and irregularities of the income of the individual.¹

Furthermore, fruitful causes of discontent among the working class are removed. Under present methods of settling compensation for accidental injuries, friction between employer and employee is prone to arise. The

¹ Cf. Pigou, *Wealth and Welfare*, 408-420.

amount of compensation is a question not of the equities of the case but of technical legal liability. To press a claim means too often the loss of position for the workman. The policy of the insurance company to keep the benefits at the lowest legal minimum is substituted for the more reasonable policy which an individual employer might prefer.

The advantages of each branch of insurance must be compared with the cost which will thereby be placed upon industry. The analysis of the economic incidence of the burden of social insurance in general shows that there is little danger of a serious effect upon industry. The cost of insurance is so small a proportion of the total cost of production that disastrous consequences to industry are not to be feared. In some industries the cost may be shifted to the consumer. In others the added cost will be met by improvements in processes and kindred economies. Difficulties would, at the worst, be limited to a few industries and a few establishments. The economic burden of insurance and the pains of the shifting process do not represent a very great social cost.

The fear that thrift among the working classes will be destroyed is in large measure groundless; compulsory insurance will rather encourage and stimulate thrift. The frequency of serious accidents in Germany has declined since the introduction of compulsory insurance. The imposition of the cost of accidents upon the employer encourages the prevention of accidents. Remote social effects give no cause for apprehension; on the contrary the balance of advantage is in favor of the policy of compulsory insurance.

This discussion of the economic aspects of social insurance has necessarily been of a general nature. There are a multitude of questions of detail which must be answered, many specific problems must be solved, before a given measure can be approved. For workmen's compensation legislation in this country, a special difficulty which must

sometimes be removed is that of constitutionality. Some states have tried to avoid a conflict with the constitution by making it optional with the employer to elect workmen's compensation, making it at the same time to his advantage to do so by removing the usual common law defences against employers' liability.

Then there is the question of the organization of insurance: Shall employers be required to insure in a state fund, or be forced to form employers' associations, or permitted to insure in private mutual or stock companies? How are the rates to be controlled? Shall awards be made by an administrative commission or by local boards of arbitration? How is general interference with the administration of the law by the courts to be prevented?

These are a few of the many questions of detail that arise in connection with workmen's compensation legislation. Compulsory insurance against sickness or old age or invalidity has not as yet been seriously pressed in this country. Proposals for old-age-pension legislation have indeed been made, but discussion has not yet reached the stage where it is a question of how the objects sought may best be attained.

Questions of administration or organization, important as they may be, are not usually fundamental. A good organ of administration may, indeed, make the difference between relative success and failure. Cheapness of insurance together with the effective prevention of accidents may have considerable effect on the burden which accident compensation places upon industry; these may be secured by efficient administration. But the fundamental question of the social advantage of compulsory insurance legislation as compared with the weight of the cost can be answered without solving all the problems of detail.

The whole movement is part of a tendency to develop a new standard of human happiness. The increase of wealth in a nation is not the supreme end of its existence.

The past century has seen a vast increase of wealth, and probably the portion of each is on the average larger. The poorest now have advantages and opportunities in education, etc., that the workmen of past generations did not know. But with the increase of wealth the center of attention is passing away from the questions of greater production to the problems of a more equal and equitable distribution. The elimination of poverty and the alleviation of the hardships of those who are among the less fortunately placed are the questions of the coming age. The provision of compulsory insurance against sickness, accident, and superannuation, is a definite step toward the realization of these ideals.

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